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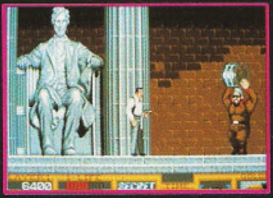
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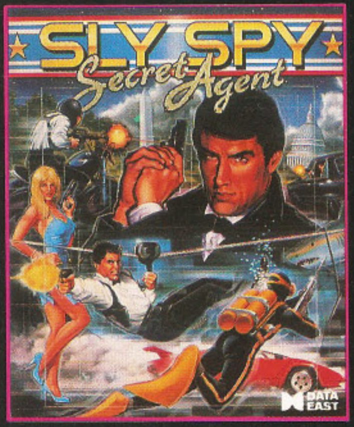
EDUCATION SOFTWARE – WHAT SHOULD YOU BUY? **MAGELLAN** – WHAT IS AN EXPERT SYSTEM?


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WE'RE FIT, WE'RE ALIVE BUT WE'RE NOT BACK HOME. Our chopper tailed-out after taking a hit.... the pilot won't be leaving the ground again. Now I have to lead my weary platoon back to our lines through the jungles and paddy fields. Entering what appears to be a friendly village, only to find it is a cover for a guerilla faction, is just one of the things that helps our insomnia...Jeez, will this stupid war never end!
Ivanhoe
LOST PATROL

TIMES

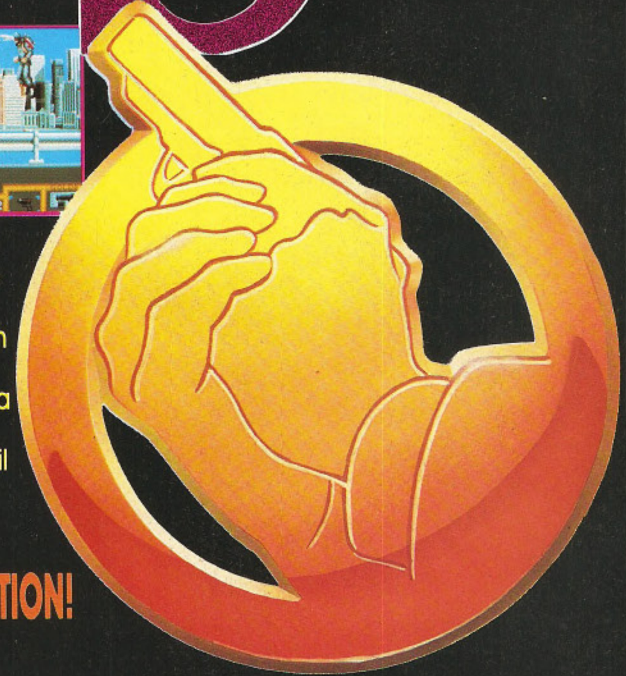






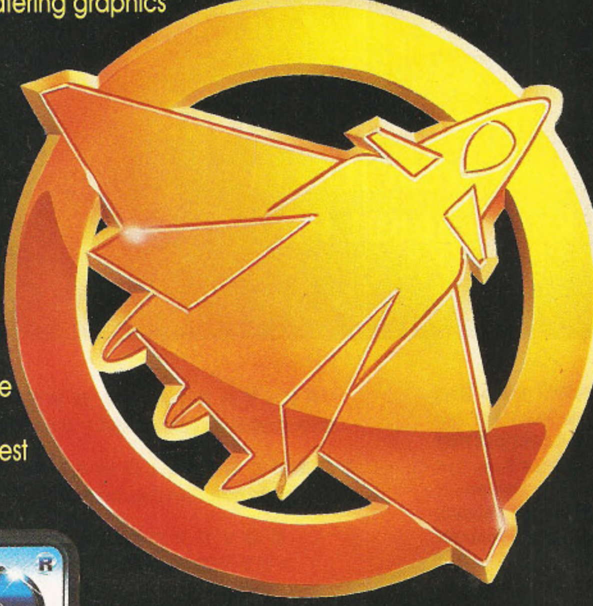
The hit coin-op game bringing espionage and action with 9 levels of thrills and excitement. Innovative game features with a host of differing scenarios from high-powered sports cars to underwater guerilla warfare. Rescue a beleaguered nation from the oppressive regime of the 'Council for World Domination'.

ESPIONAGE EXTRAVAGANZA FEATURING 9 LEVELS OF HIGH ACTION!



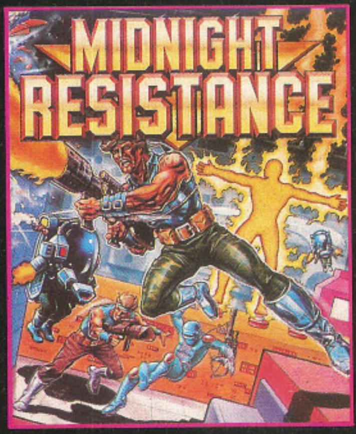
XC

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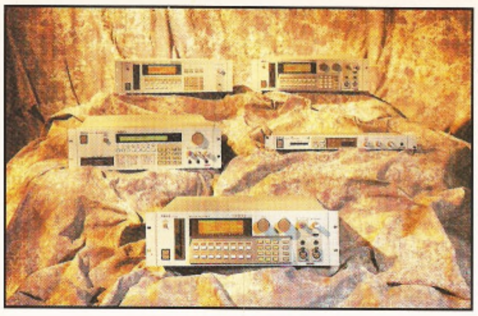






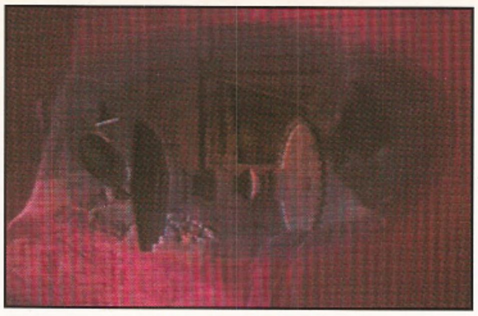
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MUSIC 111

What to buy if you have £750,000 to spend!



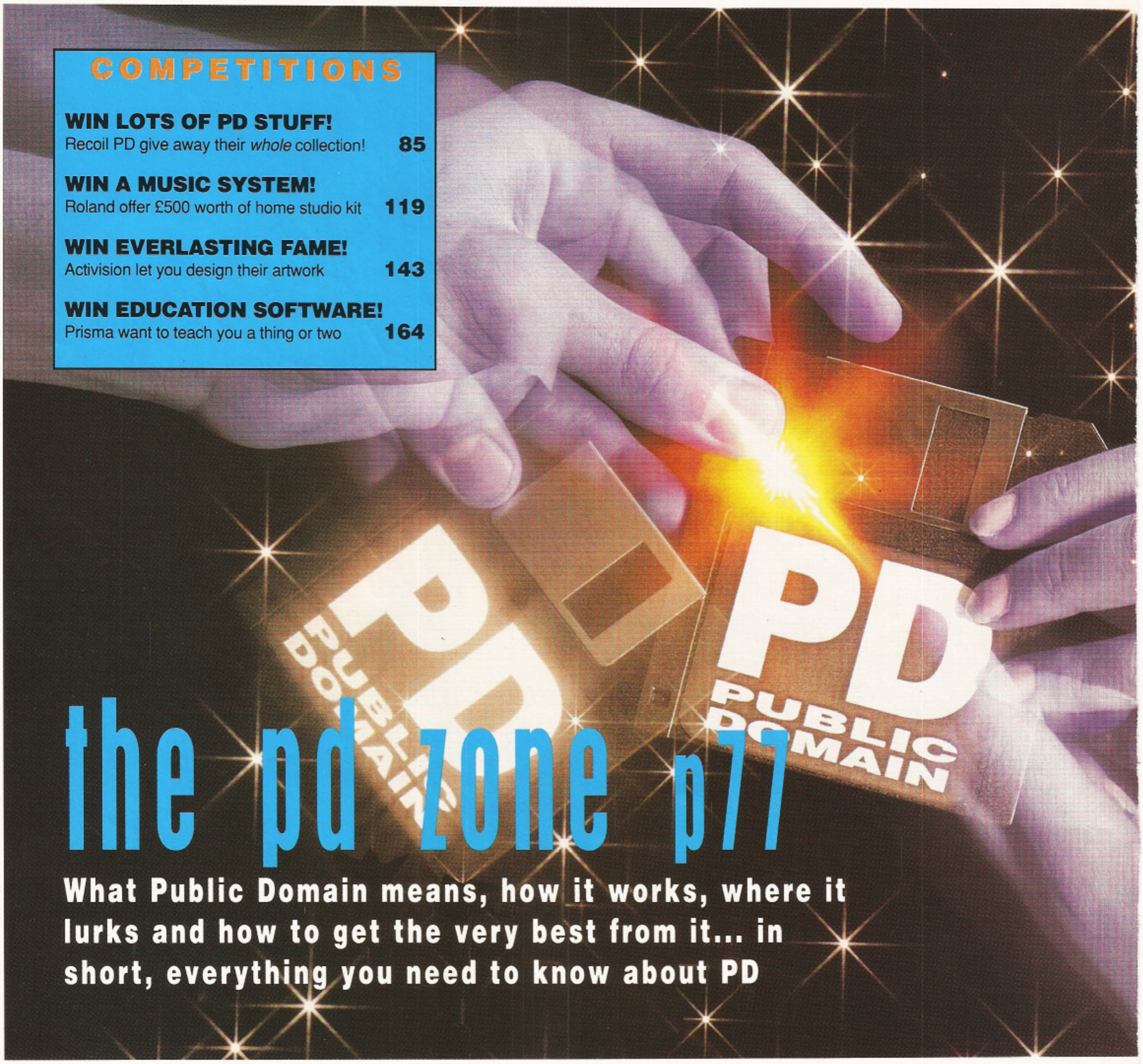
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TOOLED UP 101

Tools of the Programming Trade



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the pd zone p77

What Public Domain means, how it works, where it lurks and how to get the very best from it... in short, everything you need to know about PD

AMIGA FORMAT 14 SEPT 1990

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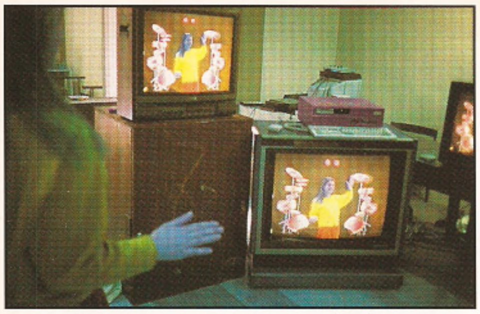
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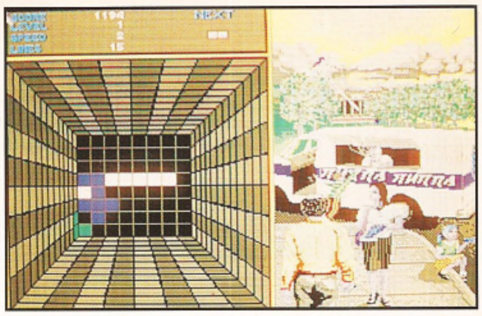
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If you read *Amiga Format* every month, why not make sure of your copy by getting it delivered straight to your door? Save hassle, save money and get a free game, too!
See Page 135 for details!

ABC
Member of the Audit Bureau of Circulations
40,371 Jul-Dec 1989

Disk Extra 87

YOLANDA
HERCULEAN TASKS POSED IN PLATFORM FORM FROM MILLENNIUM

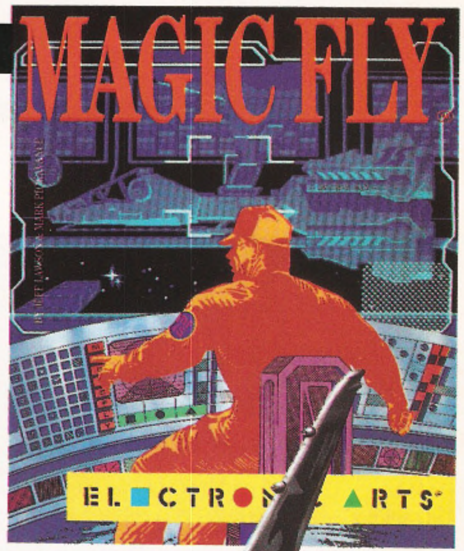
BRIMBLE'S BEAT: Bach goes modern in Allister Brimble's musical interlude ■ **ZOOM:** Small, but perfectly-formed screen blanker, mouse accelerator and CLI summoner ■ **MOUSE COORDS:** Keep a track on where your mouse is

SYS
REALLY RATHER MARVELLOUS COMPLETE PLAYABLE GAME

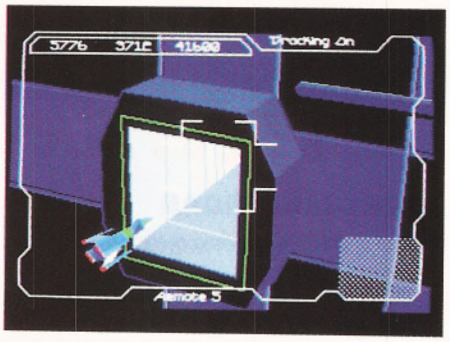
FSDIR: Speed up your disk drive and quieten it too ■ **RAPS:** An excellent cross between draughts and noughts and crosses■ **WORKBENCH HACKS:** Ahem!

We Interrupt this Magazine

MAGIC FLY™ Available in September for Amiga/Atari ST



You're a fighter pilot of the future – travelling through a giant asteroid in your vehicle the Magic Fly. Your aim is to destroy key parts of the complex and discover the space fighter codenamed the Moth.



● Over 30 different spacecraft to scan and shoot. Feel your skin creep as you see a Black Widow or Tarantula crawl towards you. ● A vast and complex network of tunnels to explore, providing hours of gameplay. ● Selection of weapons – 3 types of lasers, missiles and a range of superweapons, like the Cat, Limper and the Atomic Sledgehammer! ● Solid 3D graphics.



CHUCK YEAGER'S ADVANCED FLIGHT TRAINER™ 2.0
Available in September for Amiga/Atari ST.
Out now for PC!

Experience white knuckle flying thrills with the great flight trainer. Now fly any of 18 different aircraft, all with accurate aerodynamics and realistic 3D modelled graphics. Join the US Navy's Blue Angels or the USAF Thunderbirds in formation, or race 6 courses. Other features include more realistic terrain, unlimited camera angles and night flying. Let General Yeager personally guide you through AFT 2.0, sharing his tips and great flying experiences on the new Flying Insights™ audio tape, included FREE in every package.

We'll use this box to keep you informed about our latest news.

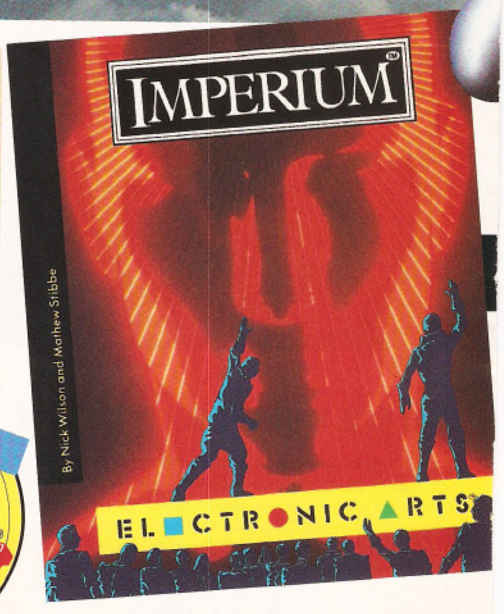
...did you know there is a Flood demo disk available at your retailers?

...be on the look-out for previews of PowerMonger from Bullfrog, the authors of Populous.

...our first CD game was released in Japan. Now FM-Towns owners can play Populous, a world-wide phenomenon!

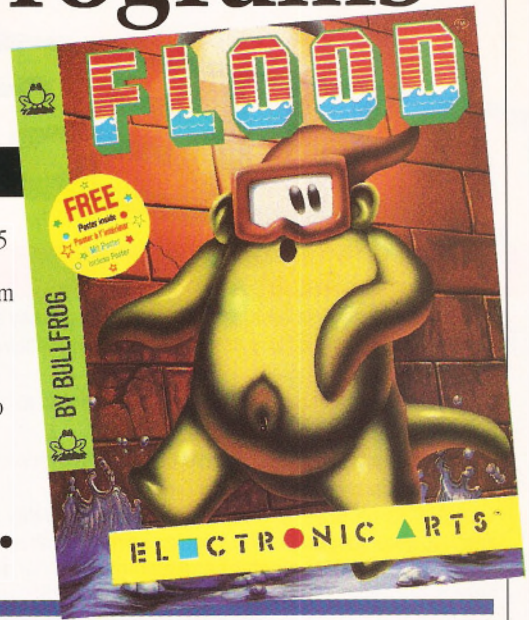
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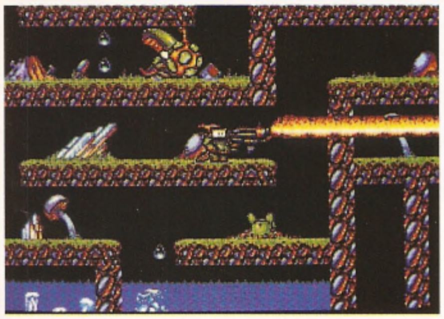
☆ Golden Scroll - The Games Machine

for some Exciting Programs



FLOOD™ Out Now (and receiving rave reviews) for Amiga/Atari ST Colour

☆ C&VG Hit ☆ Zero Hero ☆ Gen d'or
☆ ST Format Gold ☆ CU Screen Star



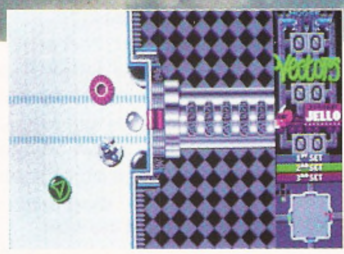
A platform game with a sense of humour and over 35 addictive levels. Help Quiffy escape from the underground caverns to the Earth's surface away from such nasties as the Psycho Teddies and the Creeping doom of the Flood.

● Whacky objects like boomerangs, flame throwers, balloons and spacehoppers ● Humorous monsters to destroy from Bulbous Headed Vongs to Vacuous Gombos. ● Passwords – no need to start from the beginning again! ● Watch Quiffy grip to almost anything – even the ceiling. ● Gurgling tunes and splashy sound effects. ● Numerous puzzles to solve. ● Secret locations.



IMPERIUM™
Out Now! Amiga/Atari ST Colour/Mono

"The latest in the splurge of space-trading games is *Imperium.* The objective is to dominate the galaxy by trading with other planets and colonising new worlds. With an array of winning options, *Imperium* may yet be the most engrossing space-trader ever." – ST Format Magazine.



☆ C&VG Hit
☆ Zero Hero
☆ Gen d'or



PROJECTYLE™
Out now! Amiga/Atari ST

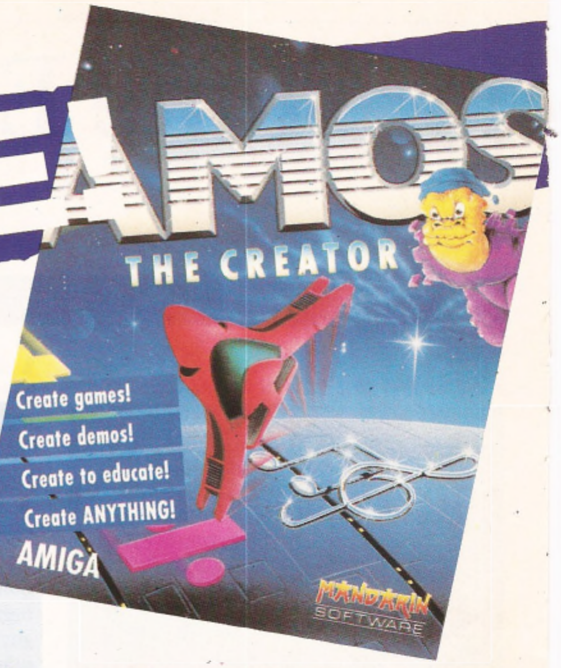
Fast and furious multi-player action in the ultimate future sport.

● Multi-directional scrolling featuring parallax, 'vector' and bas-relief graphics. ● Up to 3 players per game and 8 players per league. ● 8 different pitches, each with its own characteristics. ● Extras such as free kicks, chip shots and "loony balls."

ELECTRONIC ARTS™

The view of magazines and Amiga owners alike is unanimous: **AMOS – The Creator** is an astonishing piece of software. Now, for the first time, you can exploit to the full the awesome power of your Amiga. Whatever you want to create, AMOS will turn your dreams into reality.

AWESOME!



What the press say:

"It's better than we ever hoped for. It's such an easy system to get to grips with, but staggeringly open-ended, so that any Amiga owner can benefit from it. It's wonderful and worth every penny. Get it – now!" ***Popular Computing Weekly, July 5-11***

"A must for Amiga users who would like to be able to develop their own games, but can't face the thought of learning machine code." ***ACE, August***

"An incredible product that should create more incredible products. It looks like the days of the machine-code programmer are numbered." ***Commodore User, August***

"Can AMOS be used to produce commercial-quality games? The answer seems undoubtedly 'Yes'. No other language will let you do so much with so little effort. For producing programs that need to use ultra-fast graphics and animation, super-smooth scrolling and scintillating sound, there is only one choice... and it's name is AMOS" ***Amiga Format, August***

What AMOS owners say:

"Completely brilliant – far better than I ever imagined possible – I absolutely love it" ***Liam Murphy, Colne***

"Just bloody great... Simply no other software of this class available for the Amiga or PC" ***Simon Nicoll, Blandford***

"AMOS is perfect. The Amiga was made for AMOS" ***K Sumpter, Swindon***

"A very impressive package – without doubt the very best Basic available on the Amiga. Incredible graphics manipulation commands" ***Paul Feazey, Oxford***

"Brilliant! I've done more with AMOS in four days than with HiSoft Basic in six months!" ***JR Arkley, Woolton***

"The best value for money package I have ever bought for the Amiga. I really feel that you want me to enjoy using the language." ***Colin Mercer, Bolton***

"On par to be the best Basic language ever." ***S Hawkes, West Bromwich***

"Endless possibilities and uses. Congratulations!" ***Michael Fletcher, Mold***

"Excellent! Amazing! Brilliant! Superlative! etc etc... I love the commands and ease of use. I understand now why AMOS is called The Creator" ***DM Richmond, Blackpool***

"This is going to be the best selling package on the Amiga! It will allow my ideas to come to life" ***David Linacre, Chesterfield***

"AMOS is very fast, friendly and no doubt about it, the best program for the Amiga!!" ***David Harrigan, Derry***

"As a previous STOS user I can't fault it. Brilliant! François does it again!!!" ***Neil Burton, Tidworth***

"Excellent. The speed for a Basic is breathtaking" ***Delwyn Farr, Dukinfield***

"Simply awesome – the most impressive piece of coding I have ever seen!" ***M Rackley, Stone***

"An excellent job! AMOS is faster than I'd ever dreamed possible!" ***David Milton, Welwyn Garden City***

"An absolutely fantastic package that uses the Amiga to its full potential" ***NK Ball, Stoke-on-Trent***

"Everything I want to do with the Amiga can be done quickly and easily with AMOS" ***Stuart Margerison, Blackburn***

"Fantastic. I knocked up something in a day which would have taken a month in assembler" ***Gary Symons, Bournemouth***

"It's the best piece of software I've bought for the Amiga. Worth twice the price." ***SA Sweet, Herne Bay***

"AMOS will do for Amiga programming what the invention of fire did for civilisation" ***Kevin Smith, Marden***

"Looks set to be the most used piece of software ever on my Amiga" ***Martin Bruce, Croyden***

"The best thing that could have happened to the Amiga" ***Derek Bere, Fradley***

What AMOS owners are going to create:

"An educational program for motorists... a graphical role-playing game... a Star Trek game... a Mandelbrot explorer... database-type programs... a platform beat-'em-up like Barbarian... scientific programs... a boxing simulation... a conversion of Star Chess... conversions of old Spectrum classics... video titling software... an evolution simulator... printed circuit board designer... a football game... a Speedball-type game... a flight simulator... small business accounts... a cricket management game... a tactical wargame... producing plans of archaeological sites... home finance package... flashy scrolling demos – *and this is just the beginning!*"

Unleash your imagination – get AMOS now!

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AMOS Basic, sprite designer, Magic Forest and Amosteroids arcade games, Castle AMOS graphical adventure, Number Leap educational game, 300-page manual with more than 80 example programs on disc, sample tunes, AMOS Club Newsletter ...and more!

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Now **every** copy of AMOS, whether you buy it direct or from a retailer, comes with an additional disc: AMOS Extras! It's packed with useful programs: AMOS Sprites 600, AMAL (AMOS Animation Language) editor, menu editor, large text scroller, IFF brush to sprite converter, scrolling shoot-'em-up game and Soundtracker and Sonix converters.



Do you already own AMOS? Send in your registration card to obtain your free copy!

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Please send me **AMOS – The Creator and my free AMOS Extras Disc**

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ALL SYSTEMS GO FOR CDTV

Extensive software support for Commodore's new baby



Above: Graham Brown-Martin, chairman of Next Technology. Middle: Three views of Impressions' CDTV title *Legend of the Lost*, now under development. Far Right: The BBC-connected Multimedia Corporation are already involved in CDTV work.

The signs are already excellent for Commodore's new home entertainment centre, the Commodore Dynamic Total Vision. In the few weeks since its launch at the CES Show in the US (see last issue's news pages), companies such as Next Technology, The Multimedia Corporation and many games software houses are already committed to developing software for it.

Next are already experienced in the production of CD-ROM products and amongst the titles they are working on for the CDTV is the 'Welcome' disc that will come with every system. Next will also be providing support to other developers, using their 'Pressed for Time' CD-ROM production service.

Graham Brown-Martin, chairman of Next Technology, enthused over CDTV: "Commodore has stolen a march on the rest of the industry with CDTV and has a real opportunity to become market leader with a product of this type. I'm delighted that we're so closely involved in such an innovative product which has the ability to change the face of education, home entertainment and computer-based training."

Another prestigious company committed to the CDTV is The Multimedia Corporation, a recently formed group that are an associated company of the BBC. They already produce video disc and CD-ROM software for the Apple Macintosh and PCs, and now they are turning their attention to the CDTV. Here's what producer Ted Barnes had to say about their plans: "We will publish titles that appeal to general audiences… we want to pioneer new kinds of television programmes which CDTV viewers will watch as an alternative to VHS films or ordinary broadcast television."

The Multimedia Corporation are also on the lookout for top class Amiga programmers to join them – if you think you could fit the bill then why not get in contact with them? Call them on 071 722 7595 or write to them at their address of 109X Regent's Park Road, London NW1 8UR.

Games software houses have also been quick to respond to the CDTV (see below) and if this mixture of applications, general entertainment and games software continues it should guarantee the success of the machine.

CDTV Fun and Games takes off

Software houses currently working on titles for the CDTV include Ocean and Psygnosis. Psygnosis are keeping quiet about their project, but it's known that Ocean are working with game developers Maxis to bring the *Sim City* sequel, *Sim Earth*, to the system.

Impressions have announced that their forthcoming leisure title *Legend of the Lost* is to be converted for the CDTV. Taking full advantage of the new machine's capabilities, *Legend* is a multilevel arcade adventure which sets a distraught boyfriend the task of rescuing his lady from the clutches of an international crime syndicate. The CDTV version will feature four different arcade game styles, cartoon sequences, plus plenty of sampled speech and music. They aim to follow this product up with a nuclear war sim which is entitled *The Final Conflict*.

Also in the running for the CDTV glory stakes are CRL who have three products being coded for the machine. *Laurel and Hardy*, *Herewith the Clues* and *Cult of the Severed Head* are the games, but as yet release dates or prices are not fixed.

With such hardcore support from the software community the future looks good for the machine.

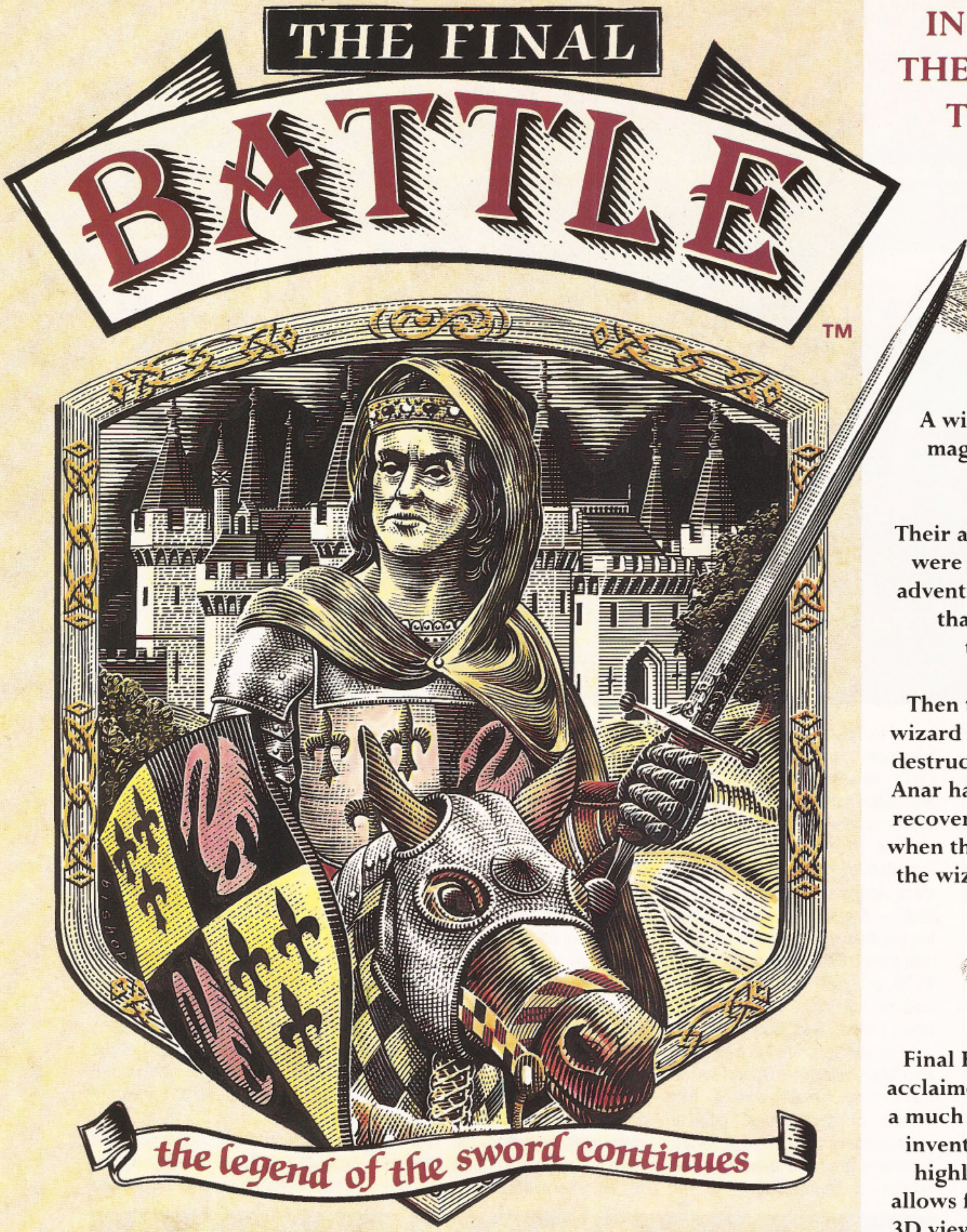
Cowabunga!



Mirrorsoft have scooped the licence of the year, *Teenage Mutant Hero Turtles*. The lovable reptiles will be appearing shortly on all formats. Mirrorsoft will be doing their own coding for the Spectrum, CPC and ST but will take port over code from the stateside game *Teenage Mutant Ninja Turtles* for C64, PC and Amiga.

Confusion seems set to reign when the Mirrorsoft *Hero* package hits the streets because the Ultra (Konami's US Software house) *Ninja* game from the States is already on the shelves as an import. "Mirrorsoft could always ask for a stop to be put to the sales of the Ultra game, but there really doesn't seem much point" a Konami spokesperson offered. The final twist in this ironic tale is that it's Konami who sold the licence to Mirrorsoft in the first place.

Regardless of the controversy it is beyond doubt one of the biggest ever potential licences. The heroes in half a shell have already grossed an incredible $130 milion at the cinema box office, have their own comic, cartoon TV series, hit record, appear in the Daily Mirror and have a whole lorry-load of associated merchandise to ensure a high media profile even before the hype machine hits top gear.



IN THE BEGINNING THERE WAS A SWORD, THEN CAME THE ADVENTURE.

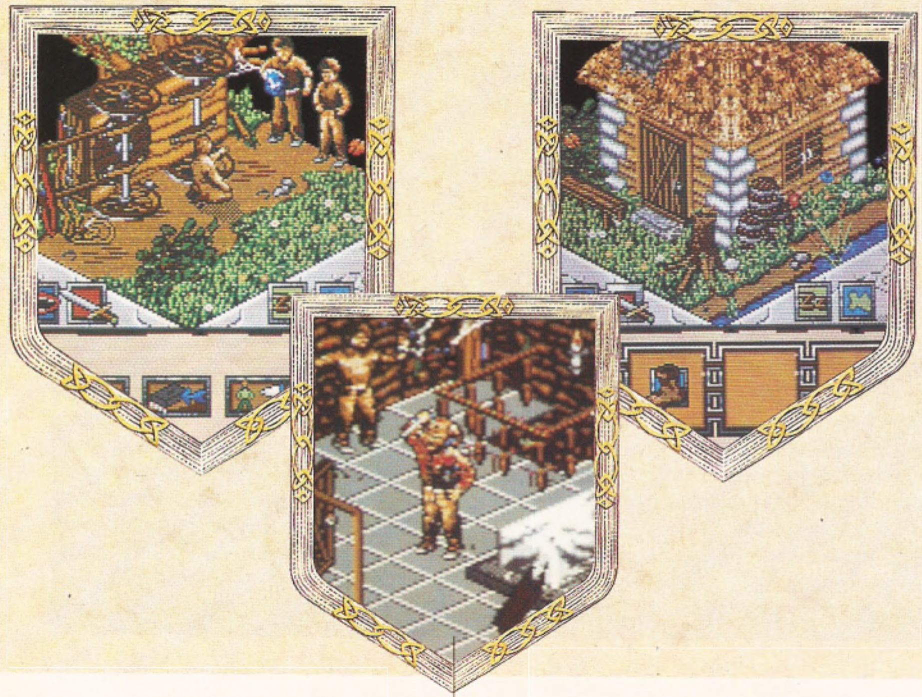
A wizard trapped in a teardrop. A magical sword. A race of mutant humanoids.

Their attempts to destroy the kingdom were thwarted by a band of fearless adventurers. In the chronicles of Anar that chapter became known as the Legend of the Sword.

Then the teardrop shattered and the wizard unleashed a plague of death and destruction upon the land. The world of Anar has one remaining hope: whoever recovers the six power crystals created when the sword was forged, may banish the wizard to the deepest pit of hell...

Final Battle, the sequel to the much-acclaimed Legend of the Sword, features a much larger vocabulary, an expanded inventory and superior graphics. Its highly sophisticated action system allows for weather changes and gives a 3D view of every location – a system at the forefront of contemporary adventuring.

When the teardrop explodes, only the brave can save the land.



PSS

IRWIN HOUSE, 118 SOUTHWARK STREET, LONDON SE1 0SW. TELEPHONE: 071 928 1454. FAX: 071 583 3494

Screenshots from Amiga version

New Improved Macintosh Emulator

The A-Max Macintosh Emulator has been around for over a year now in its original form – it was reviewed in *Amiga Format* Issue One. Although very well received, it did have its faults, a lack of hard drive support being one of the main omissions.

Now Entertainment International have announced not one, but two new versions of A-Max. The basic unit, A-Max II, is in the same plug-in grey plastic box as before, is aimed mainly at A500 users and is available very soon. The more advanced variation is A-Max II Plus, which comes on an internal card for the Amiga 2000 and will be out in November.

A-Max II allows full hard drive support, enabling access to partitions on an Amiga hard drive while the Mac emulator is running, which will mean that large Mac applications such as the major DTP packages will be useable. The makers claim that most popular Mac software will run fine on A-Max II, the only real problems being some copy-protected software and games.

Remember also that A-Max does require an Apple Macintosh system ROM chip to run. If you want to turn your Amiga into a Mac Plus, the basic unit will set you back £169.95 without the vital chip or £269.95 with. The advanced A-Max II Plus will cost £249.95 without or £349.95 with.

SHADOW LOOMS AT PSYGNOSIS

Psygnosis are all set to loose the Beast again, in the sequel to their graphically stunning smash hit *Shadow of the Beast.* Entitled, oddly enough, *Shadow of the Beast II,* the new game takes over where the other left off.

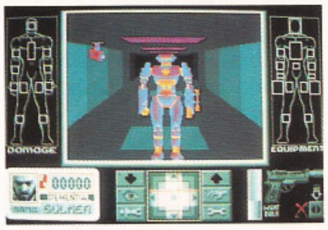
What's more, the hero also has the ability to interact with the people or creatures he encounters. A number of the characters are vital to the success of the mission, introducing a note of hesitancy to the slaughter. *Shadow of the Beast II* will be available soon – stay tuned for the review.



***Shadow of the Beast II* – Psygnosis promise a vast gameplay advance.**

THREE GO SOLO

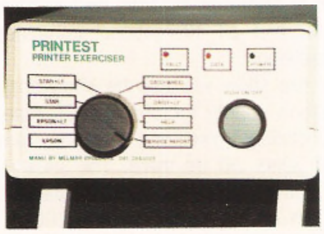
Despite the financial collapse of a number of software and hardware manufacturers this summer a few game developers are still brave enough to go it alone. System 3 have joined the likes of Core Development in a bid for freedom. System 3 officially went solo on American Independence day, a fact they were quick to use to preview their latest project *Flimbo's Quest.* Core Development should have the much-previewed *Corporation* and *Torvak the Warrior* ready for release at the Autumn Computer Entertainment Show in London.



***Corporation* – due out soon.**

TESTING TIME FOR PRINTERS

Melmar will be a new name to most Amiga owners, but they have a couple of new products that are of interest. First up is a double-sided, plated thru, full pro PCB which allows two operating systems to be selected from the keyboard (via two soldered connections) or from an extra switch. The second device is a parallel printer exerciser called Printest. This handy device allows you to test printers without having to plug them into a computer and caters for Epson compatible, Star and daisywheel printers. For more details on these products or Melmar's range of ham radio communications products, ring them on 091 2843028 (evenings), 091 2738811 Ext 22940 (daytime) or write to them at 2 Salters Court, Gosforth, Newcastle, Tyne and Wear NE3 5BH.



The Melmar printer tester runs independently of the computer.

ULLO ROLAND, GOT A NEW GAJIT?

Manchester based Music Software firm Gajits have just set up a deal with electronic music giants Roland. *CMpanion,* Gajits' librarian and editor program, is due be distributed by the instrument magnates themselves and will be available as part of their computer desktop music system.

CMpanion is compatible with assorted Roland eqipument, including the CM-32L LA sound module, CM-32P sample playback module and the mega-successful MT-32 sound unit. CMpanion is available from any Roland dealer or can be obtained direct from Gajits on 061 434 2768.

TOFWARE

It has come to our attention that some readers are having problems with a recent advertiser, Tofware International. The company apparently now has no address in the UK, so anybody needing to contact them should contact them at their Dutch address and phone number. Phone 010 31 1150 95898 or write to Lange Reksestraat 20, 4538 AG Ternevzen, Holland.

KICK OUT THE JAMS

A handy little box created by MSC Technologies will enable you to connect both a mouse and a joystick to the same port and switch between the wto at will – a good hassle-saving idea. The box is called JAMS, Joystick and Mouse Switch, and will cost a mere £12.99 including P&P from MSC, 81 Croxteth Drive, Rainford, Merseyside WA11 8LA.

RAINBIRD RELAUNCH BETRAYED

The relaunched Rainbird label's bid for the strategy games top spot continues apace with the release of *Betrayal.* Rainbird now will feature strategy orientated products.

Midwinter was the launch title for the concept which is being consolidated with *Betrayal.* Forthcoming brand-name products will include the likes of *Universal Military Simulator II, Starlord* and possibly even *Midwinter II.*

Betrayal puts the emphasis on pragmatism and realpolitik. As one of four barons in the middle ages the players compete for power in political, economic and military

Dick Tracy Tied Up

Madonna and Beatty are all set to hit the Amiga and cinemas simultaneously this autumn thanks to a new tie up between Titus, Nathan Software and Disney. Starting with the blockbusting licence Dick Tracy, Disney Software will be releasing nine titles before February including a game based on the forthcoming Spielberg movie Arachnophobia. There will also be educational/children's packages like Donald's Alphabet Chase and creativity packages which include The Animation Studio and Dick Tracy Print Kit.



...AND ANOTHER ONE IN THERE, PLEASE, AMOS

Following on from the initial success of AMOS, with 2000 users already having registered, Mandarin's astounding programming package is to be released with a bonus disk from the end of July.

AMOS Extras will contain extra tools and goodies to supplement the already extensive system. The disk includes the RAMOS routine, which will allow users to create stand-alone AMOS programs, Sprites 600, a library of ready-made animated sprites to use in your own games, an AMAL (AMOS Animation Language) Editor, a program for creating complex pull-down menus, an IFF Brush to Sprite converter, a scrolling text routine and a routine to convert *Soundtracker* and *Sonix* tunes to run in AMOS programs.

The disk also contains a bonus shoot-em-up game which takes place over a lunar backdrop. Any users that have already bought the system needn't worry, since all registered users will receive the Extras disk free of charge. Further information can be obtained by contacting Mandarin on 0625 859333.

circles. It's no more Mr Nice Guy because total power, complete with your own puppet King and Archbishop, is only an option for the devious, lying, cheating sorts.

Barons control villages and courtiers who must be protected if they're to be employed for your own advancement. Courtiers are prey though to the tender mercies of assassins, while villages – the only source of food, money and soldiers – are prone to being attacked by other lords.

Designed by Floppy Electronics, the project has been in the planning stage since TelecomSoft controlled the Rainbird label. Now it's all but finished and the knives are being sharpened for some serious back-stabbing come review time.



Electrocoin's ***Mr Do Run Run.***



Betrayal

RUN RUN AWAY

If you're longing for the days when the arcades were arcades and the likes of *Donkey Kong* ruled the roost, then fret no more. *Mr Do! Run Run,* a conversion by Electrocoin, is almost with us. Based on the coin-op of a few years ago, Electrocoin feel that even today the game's natural playability will shine through and make it a winner.

STAY TUNED FOR THIS WORD

Those waiting for the latest version of Arnor's successful word processing package *Protext* can breathe a sigh of relief – *Protext v5.0* is due for release this month. The new system retains all the functions of previous versions, but boasts a new, more flexible and easier mode of operation due to the inclusion of a more extensive system of pull-down menus. Arnor claim that this will allow users unfamiliar with the earlier versions to get the most out of the system with very little effort, allowing them to achieve maximum productivity with minimum confusion.

Protext v5.0 will be available at an introductory price of £125 until the end of September, when the price will be increased to the normal retail price of £149.95. Fortunately, existing *Protext* users can upgrade to the latest version at a considerably lower price. For more info, contact Arnor at 611 Lincoln Road, Peterborough, PE1 3HA, or telephone 0733 68909.

NEW OPERATING SYSTEM

If you fancy getting to grips with a new operating system then why not check out MINIX, which has just arrived on the Amiga in version 1.5. The system has over 180 utility commands, ANSI and POSIX C libraries and full source code for the system and utilities. MINIX is available from the Minix Centre on 0953 89345 and they also provide a range of application programs for use under MINIX and a support service which produces a quarterly magazine.

GREEN PAPER

The green revolution has made its way to listing paper and Action Computer Supplies are now selling three types of 'environmentally friendly' paper from the Standard Check Book Company. Checklist, Multilist and Safelist use 99% of the tree and use hydrogen peroxide for bleaching instead of chlorine. More from Action on 0800 333 333.

LOGICAL PURCHASE

Photofile, who provide a digitising service on the Amiga, have changed ownership and new owners Logic Software are expanding the services that it offers. New owner Richard McIntyre said "with the resources of a larger company I can now offer to expand the present digitising services of Photofile to include digitising of slides and, by arrangement, the digitising of 3-dimensional objects. We will, of course, present the finished digitising on slide, disk or videotape as required."

He also added that "we have been customers of Photofile ourselves and we have no intention of changing the basic structure and service offered." Photofile's new phone number is 0865 742182 but its postal address remains the same – PO BOX 49, North PDO, Nottingham NG5 6SR.

Big Fun at the Big Show

PC Show no, CES yes as the year's biggest computer show returns.



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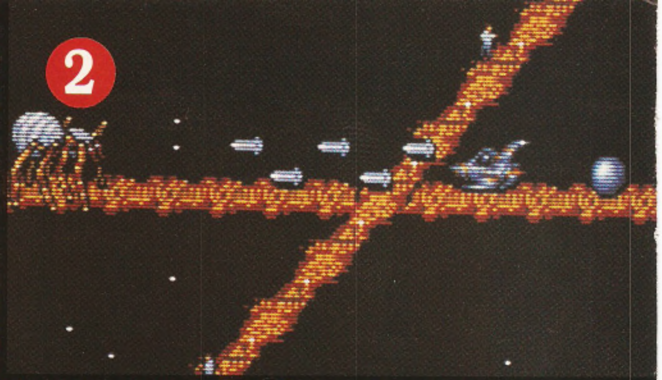
The biggest date in the leisure computing calendar is normally the Personal Computer Show, held in September of every year. This year, though, the show undergoes a change of name as new organisers have taken over the running. It is now the Computer Entertainment Show.

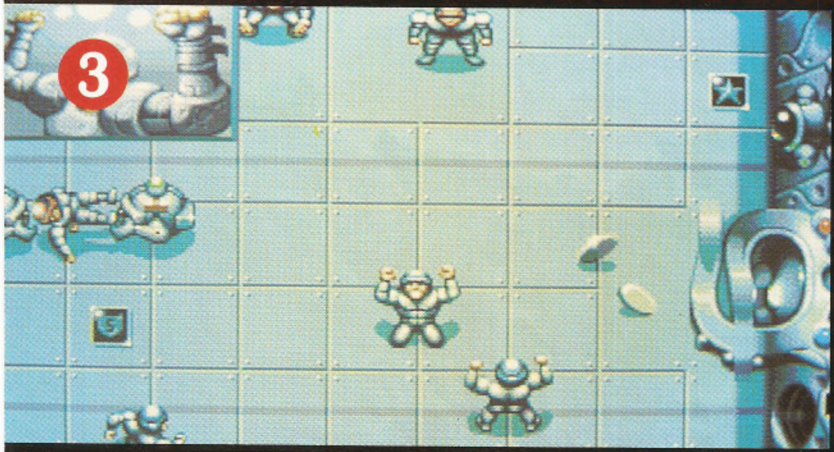
This year's event promises to be bigger and more exciting than ever before, with all the major software houses putting in an appearance and Commodore expected to be displaying their CDTV to an expectant public. Other attractions will include the living room of the future, packed with the kind of electronic wizardry we'll all have in the future, and an international computer games competition.

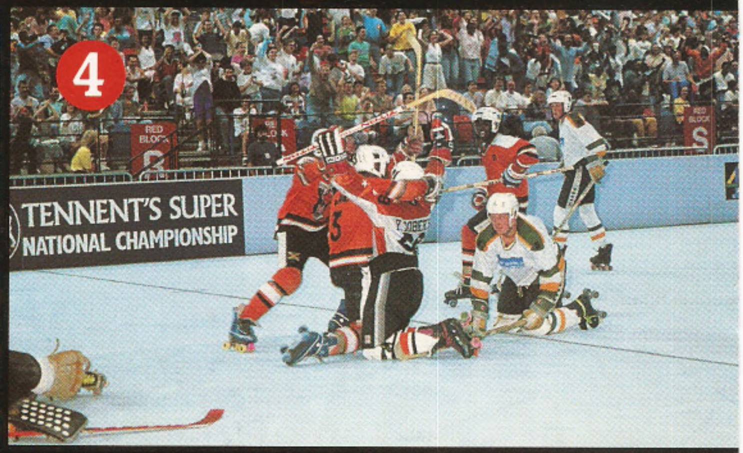
Because the show will also be sponsoring Esther Rantzen's charity for children, Childline, many stars including herself and such pop stars Big Fun and Sonia will be there. The show is open to the public on Saturday and Sunday the 15th and 16th of September from 10.00am. The special voucher on this page will get you a reduction of 50p off the entrance charge.


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ZZAP 64: "Brilliant": 98%
ATARI ST
AMIGA 500/1000/2000
PC & COMPATIBLES
INFOGRAMES













COMING ATTRACTIONS

We proudly present the hot news of all the new releases you can expect to see arriving this month...

1 MAD PROFESSOR MARIARTI

Closing down science labs doesn't sound fun, but with crackpot inventor *Mad Professor Mariarti* it's a different story. He's got a little problemette with five of his labs, dealing with everything from genetic science to rocket technology – the town council wants them shut, now!

In this platform arcade romp the enemies are of the Prof's own creation. He's attacked by huge disks, killer ROM chips and the deadly ribbon cables! The third game for **Krisalis,** this classic format is given an extra shot in the arm with puzzle elements, a shoot-em-up and ultra cute graphics. Get those white coats ready, the Prof should with us soon.

2 WEB OF TERROR

As if in response to dear old Channel 4's Creature Features TV series, **Impressions** present *Web of Terror*. A gigantic spider has appeared and is eating a space liner full of people. A lone space ranger is engagde to go to their rescue and that's where this arcade quest begins.

Heading into the web, the ranger has to rescue passengers four at a time. 125 levels in total of arachnid mayhem are promised, as you try to manage limited fuel stocks, avoid the spider and locate the nearest transporter. The Web should weave its way to your Amiga in the next few weeks.

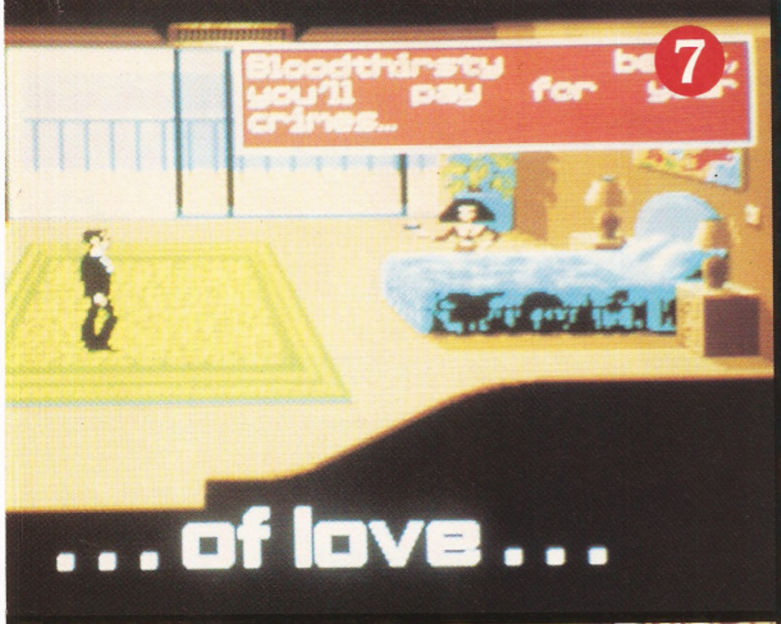
3 SPEEDBALL II

Futuristic ultra-violence is set to stomp the games scene once again, courtesy of Bros – the Bitmap Bros. This sequel, *Speedball II,* features: more weapons, warp chutes, ramps and target squares and a larger playing area than its rather spiffing forerunner.

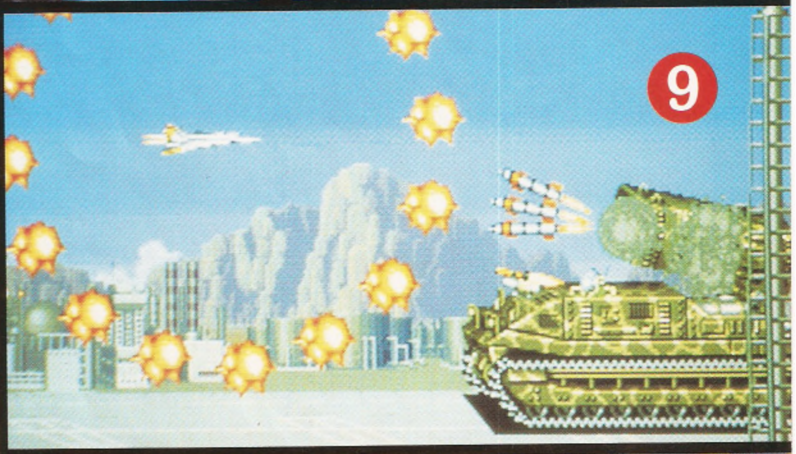
What's more, in this forthcoming **Imageworks** extravaganza you get the chance to manage the team and even trade players between matches. That's if you've any players who aren't in the hospital or morgue after the previous bash. The new *Speedball* season kicks off this Autumn.

4 STREET HOCKEY

Gonzo Games' next big venture is the streetwise world of *Street Hockey*, based on the popular sport and officially sponsored by the British Association. It features 3D viewpoints, multi-directional scrolling and even











real-time bi-directional serial interfacing between different machines – PC or ST to Amiga!

Based in New York, your team first has to cross the car-riddled streets in classic *Frogger* mode to reach matches at sites that include Little Italy, Chinatown and the Rockefeller Centre. *Street Hockey* is expected to hit the road at the end of August.

5 UNREAL

The planet Unreal was created by Fagor. He took with him four life-giving eggs and two guardians to preserve the balance between good and evil. Due a mishap with a comet on arrival all planetary control was lost, leaving the two guardians slogging it out for supremacy.

As a native of Unreal you must fight against the evil guardian, aided and abetted by a friendly dragon. You can even pilot said dragon in a 3D flight sequence. **UbiSoft** have no news on the release dates as yet, but we shouldn't have to wait too long before things get really Unreal.

6 CORPORATION

Core Design – of *Rick Dangerous* fame – have nearly completed their first solo project, entitled *Corporation*. Set in the future, the game gives you the aim of infiltrating a research lab and bringing back one of the outrageous genetic projects the Corporation is developing.

A 3D adventure, it's all the more stunning because the project's protected by horrific genetic mutants and huge cyborgs. Which means there's a lots of ducking and diving as you roam the Corp's HQ. As you sneak around there's lots of kit including gas masks, explosives, body armour and all those bits 'n' pieces spies usually find lying about to collect. The Universal Cybernetics Corporation should be doing business within the next few months.

7 OPERATION STEALTH

His name's Glames, John Glames, and he'll shortly be embarking on *Operation Stealth*, with help from **US Gold**. In this James Bond-style epic, the man with the plan has to fend off piranha, evil megalomaniacs and beautiful women. Life's a bitch and then suddenly it isn't.

8 OPERATION HARRIER

Operation Harrier is the second game this month from **US Gold.** It appears to involve flying around a bit, bombing things and getting shot down a lot. The plot will no doubt become clear as the game hits the skies later this month.

9 UN SQUADRON

More **US Gold** aerial antics are coming with the *UN Squadron*. Lots of hardcore blasting action looks likely with the boys in the pale blue berets. Produced by Tiertex, the Goldies' arcade specialists, *UN Squadron* takes off this Autumn.

10 FLIMBO'S QUEST

More cutesy action, this time from **System 3**. Their first independent title, this one features some darned impressive graphics and parallax scrolling. Young Flimbo has to run about a fairyland-style world in a bid to rescue a damsel in distress from the clutches of wicked, deranged professors in a cartoon adventure game.

11 BETRAYAL

New from **Rainbird** is *Betrayal*, a 'devilish god game' in which the plot sets you the task of seizing power in a medieval fiefdom using a combination of economic, political and military nastiness. 'Wanna-be-Machiavellies' will only have to wait a matter of weeks now until they get a chance to be really nasty to family and friends alike.

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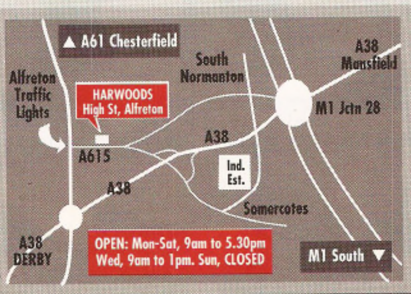
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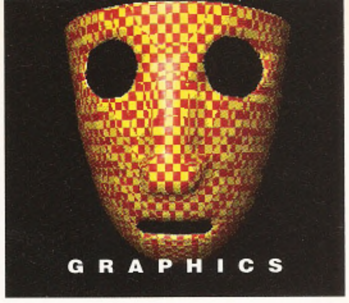
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Special Effects 2

Although it has been available in some guise or other for more than two years Impulse's 3D modelling, rendering and animation system, *Turbo Silver*, has remained fairly unknown in Britain Now there is revived interest in the program, thanks mainly to Intelligent Memory of Frankfurt and The Software Business of Huntingdon, Berkshire, who are marketing it in Europe and Britain respectively.

The main reason that *Silver* is worth all this effort is that it has quite remarkable surface mapping capabilities – as we saw last month. As we promised you, here is a full review of all the bits we have come to terms with so far – object editing and rendering. The Terrain Module and the complexities of animation will have to wait.

Silver MACHINE



A look at the powers and performance of *Turbo Silver*, with **BRIAN LARKMAN.**

The Animation Editor

When you start the program you are first presented with the animation editor. Centre screen is a horizontal strip of film – 8 frames across – plus an extra frame near the bottom. On either side of this extra frame are sliders – the left slider determines which 8 frames (from 999) are displayed, the right sets the frame delay. At the top is a normal menu bar giving control of all rendering and animation functions.

Each frame represents one image rendered according to the screen resolution and rendering mode selected on the menus, plus the scene set up in the object editor. Each scene is called a 'cell'. These can be unique for each frame, or reproduced a number of times. It is this ability to cut individual cells – or sequences of cells – and paste them in any order anywhere on the 999 frames of the filmstrip that makes this such a powerful animation editor.

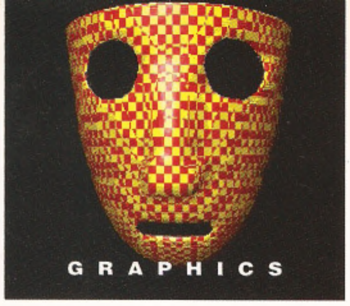
Two methods of duplicating cells are provided – 'copy, cut and paste' and 'source and target'. 'Copying' produces an exact clone on 'pasting' and the new cell will have the same cell number regardless of which frame it is in and how many copies there are. Each clone of a particular cell is an identical copy, so changing the clone changes the original and vice-versa.

> "After several weeks of use there is little doubt that the images produced by *Turbo Silver* are wonderful..."

Using source and target' also produces an exact copy of the source in the target cell, but the target has a new number and can be changed without affecting the original. This can be very useful when developing animations and experimenting with scenes and complex objects.

Unlike most modelling systems *Silver* provides an Undo, but this only operates on the last action. If you want to do any real experimenting it is often necessary to carry out several manipulations of an object, only the last of which is undoable.

One way out of this is to save a copy of the object to disk before the experiment, but a better solution is to



always work with a 'source/target' duplicate cell rather than the original. As work progresses eight or ten or even more cells may be present on the film strip, each representing a different stage in the development of an object or scene.

All of these are available for examination and re-use so that ideas can be developed along several parallel lines. One thing that would make this process much easier would be the ability to name each cell – or better, attach a comment to it.

Once the final version is arrived at, that cell can be saved and the others discarded or archived. In a similar way, multiple cells could also be used as 'layers' to assist in the construction of a complex object. Each part of the object is built in a separate cell or layer using the coordinates box to ensure accurate registration. When they are all finally complete, the Join command can be used to superimpose the parts.

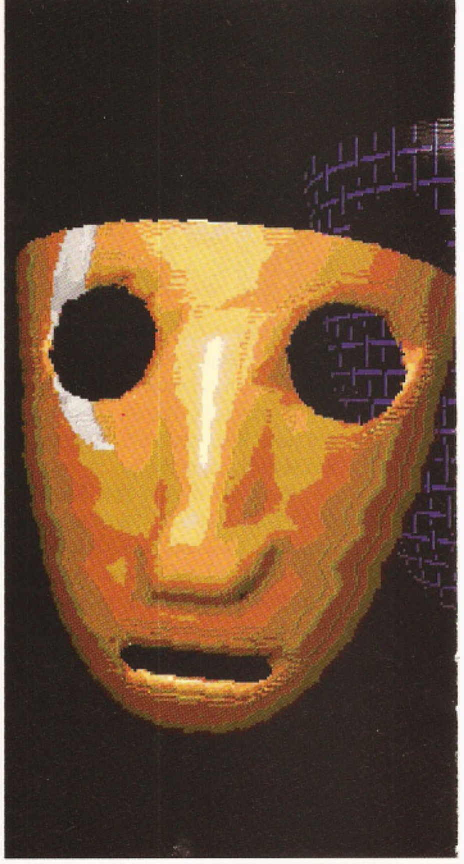
> “Objects can be constructed and edited, texture maps applied, scenes assembled, animation paths set, light sources positioned and camera angles determined”

The Object Editor

Double-click on any frame and the object editor for that cell or image is displayed. This is where most of the serious work takes place. Here objects can be constructed and edited, texture maps applied, scenes assembled, animation paths set, light sources positioned and camera angles determined.

Initially, just a small circle with a line pointing from its centre is shown, representing the camera, viewed from the front. Right side and top views can also be selected from the keyboard. All functions are controlled from the menus, function keys, and other programable 'hot-keys'.

Before any other form of object or light source can be constructed an axis must be provided for it. The axis is a 'hot-spot' that is used to select



TUTORIAL ONE

TEXTURE MAPPING AND RENDERING

The range of rendering possibilities in *Turbo Silver* is almost endless. Reflectivity and transparency can be applied to almost any object, often at the same time as a texture or brush-wrap, and can be varied almost infinitely. Coded textures and mapped brushes can also be wrapped onto anything in a wide range of ways, even both at once, so an object could be semi-transparent, wrapped in an IFF brush and mapped with a coded texture!

With so many variables, learning how to create a particular texture mapped and rendered effect is to some extent a matter of trial and error, depending on the nature of the scene and objects, the lighting, and camera position. Undoubtedly, *Silver* is a program that must be learned the hard way. So rather than a detailed, step-by-step tutorial it seems more useful to give a series of tips on how to set up the scene to get the most out of the *Turbo Silver* environment.

In the spirit of experimentation that is so much a part of using *Silver,* there is also a description of the process involved in rendering wood effects using the Brick Texture, by modifying its parameters.

Checks

In the current version of *Silver* only two built-in textures are available – *Amiga Format* will be chasing up the other five or six that are available in America. For the meantime, the easiest and most straightforward effect is Check. This can be applied to any object, but like all of *Silver*'s coded textures it is a 3D effect. In other words, it is not wrapped around an object like a brush, but penetrates into it.

The chequered masks above illustrate the effect very well. Imagine a block of Plasticine built up from alternate red and yellow cubes in all three dimensions. Now visualise that the masks have been carved from this multi-coloured block. With this in mind the apparent inconsistencies begin to make sense and can be used to make some unusual effects. To get regular looking checks use flat objects and multiples of 32 for Check Size in the Parameters requester; other numbers produce much more complex patterns. If you really wanted the checks to wrap round the object, not through it, then use a wrapped IFF chequered brush.



Bricks and Wood

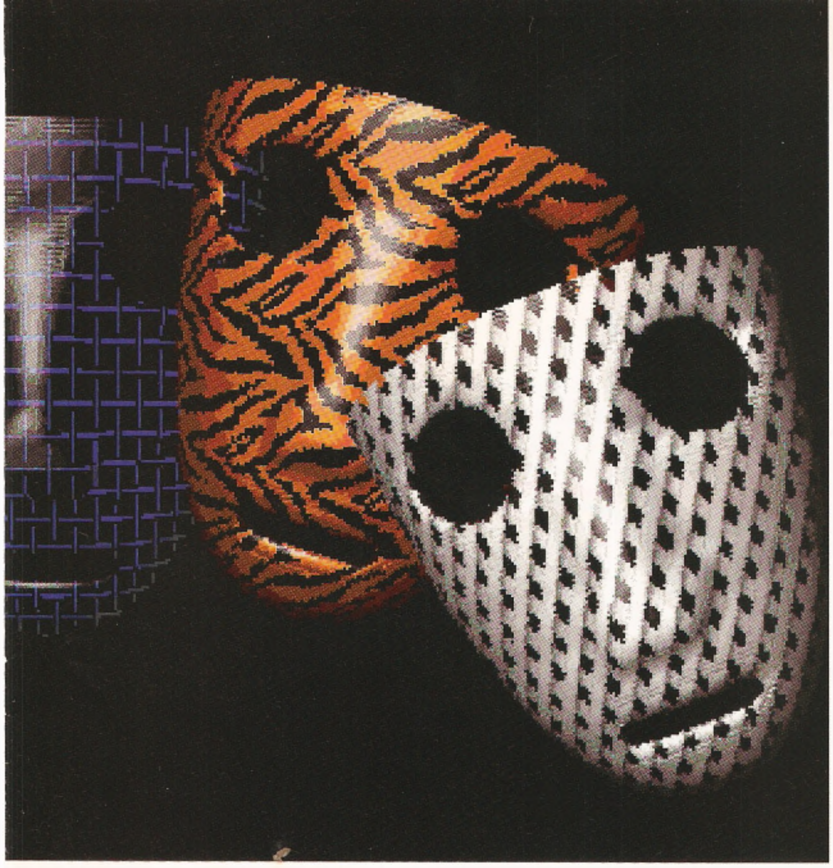
The Brick Texture provided is also a penetrating 3D pattern and can be transformed by varying its parameters. The series of Mask renders above show the results of changing the colours and x, y, and z dimensions, and the 'mortar' thickness. The first attempt used the following parameters: X Size=40, Y and Z Size=20, Mortar Size=2. Shifts all set to 20 and Offsets to 0. The yellow version resulted from X=10, Y&Z=2, Mortar=0.3. Immediately, the brick pattern broke up into this reptilian-looking surface.

Changing X to 90, Y and Z to 3, and mortar to 1 produced Brick-Wood, the first example looking like wood-grain. From this point the parameters were deliberately varied to enhance the wood effect. Equally, the scaly yellow version could have been varied to develop a scaly surface. The last three attempts, Silver Birch, Pale Wood and Red-Brown, use variations of colour to help the effect. Pale Wood has X&Y=3 and Z=90 to make the grain vertical.

Surface Wraps

The Blue Grid, Tiger, Trellis and Gold-Silvermoon pictures all use IFF brushes to create their effects. In each case the Attributes requestor was set in the same way so that the result is dependent just on the IFF brush used. Blending was set to 10 (values above 25 break-up the original image), Specular to 200 and Hardness to 6. Shaded, Smooth, Normal and IFF Brush were all selected.

To ensure that the brush covered the mask, the original axis used for the brush was scaled in the Transformations Requester so that the object just fitted in all three dimensions. Small brushes stretched very large show severe pixelation effects, but Silver manages to blend these so that they usually still look convincing.



> “By far the most unique capability of *Turbo Silver* is Surface Mapping. Other programs have this ability to some degree, but only *Silver* has such fine control”

the object ready for any functions, transformations or attributes to be applied. (The only exceptions to this rule are the primitive and custom objects that arrive with a built-in axis.)

It is the use of this 'hot-spot', and particularly the coded colours that objects, points, edges and faces turn to when they are 'picked', 'selected' and 'marked', that causes the most problems with *Turbo Silver*. The various 'states' of objects and their parts, and the colours that go with them, are unnecessarily complicated, requiring constant reference to the manual. Eventually the complex logic of the rules does begin to make sense, but it certainly couldn't be called a user-friendly system.

Objects are constructed with points, edges and triangular faces. These can be added individually if you want to build an object from scratch, but are of most use for constructing profiles ready for extruding or spinning, and for editing ready-made 'custom' objects. A sphere, torus (or doughnut shape), cone, disk, tube and extrude (or solid column) are all available in 'off-the-shelf' form, whose size and number of divisions can be selected in advance.

These custom objects are automatically built from points and edges, extruded or spun, and can be edited in the normal way. A sphere and a flat rectangular surface are also provided in 'primitive' form. They can be re-sized and given attributes like the custom objects, but cannot be edited. The advantage of primitives is that they render very quickly.

Two other object types can be added to the scene – ground and stencil. Ground, as its name implies, is a ground-plane, and several can be added to the scene. They stretch in all directions to the horizon and can only be moved in the vertical (Z) axis.

Stencil is a 2D object created from a two-colour bitmap. When rendered in *Turbo Silver* the original background colour of the bitmap is transparent, the foreground colour behaves as a normal object that can be animated, and transformed. Both the Ground and Stencils can be assigned brushes, textures and other attributes.

The tutorial describes how the object editor tools and functions were applied to the construction of the object in the shape of a mask, used for the illustrations on these pages. The tools provided were adequate for this task, but the job would have been made a lot easier if certain specialised commands like mirror and magnet had been available.

The Render Engine

By far the most unique capability of *Turbo Silver* is Surface Mapping. Several other programs have this ability to some degree, but only *Silver* has such fine control: over lighting and specular reflections, over the dithering of colours, and over the wrapping of complex objects with the textures. The effects are superb. (For a full description of Surface Mapping on the Amiga see *Amiga Format 13*.)

The surface effects applied to all objects are controlled by the Attributes requestor and the Brush and Texture menus in the Object Editor. The accompanying tutorial, on the opposite page, describes the use of these facilities in detail.

The more general control over rendering and the 'look' of an image is handled in the Animation Editor. The screen display and resolution are set by menu commands before a new project is initiated.

Display modes available include HAM, lo-res, hi-res, interlace and non-interlace, normal and overscan, 12-bit and 24-bit RGB. It can be a little inconvienient trying out a picture in several different modes as this involves saving the cell, closing the project, starting a new one, loading the cell and rendering it.

The rendering options include wire-frame, solid model, and full trace. Full ray-tracing is the best option, rendering texture maps, reflective surfaces, transparency, shadows and specular highlights with amazing realism, but is numbingly slow unless you have some sort of accelerator card. The other options sacrifice some of the image quality to increase the rendering speed. Wire-frame is very quick, but... it's just wire-frame. Solid model provides suprisingly good results very quickly, even rendering texture maps that look much like the full trace ones (though without reflectivity or shadow effects).

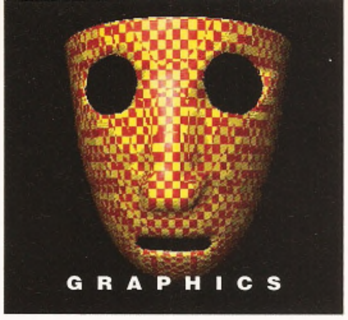


This mask was chosen as the basic object on which to test out the surface mapping facilities of *Turbo Silver.* A description of how the mask itself was constructed follows on the next page, in Tutorial Two.

FAR LEFT: These three masks all make use of the standard Check texture that comes with *Silver,* but used in varying sizes.

LEFT: Brick and Wood effects are all achieved with subtle variations in the standard Brick texture.

ABOVE: These masks are all a product of wrapping IFF brushes onto the surface.



TUTORIAL TWO

SILVER MASK MODELLING

The mask used to produce the illustrations was modelled using most of the Object Editor functions:

1 From the Front view, add axis.

2 Select Add Point and create Mask profile. Use about 30 points (depending on your available memory). A single line is preferable to a cross-sectional area. When making the eye and mouth-holes later, a double skin would have presented problems.

3 Connect the points with Add Edge.

4 Select Pick Object, then select the Mold command.

5 In the requestor, set:

a) The number of sections. Depending on the memory you have available this should be quite high – preferably the same as the number of points chosen for the profile. This gives you an approximately square grid for further manipulations.

b) the number of degrees. In this example 180 degrees were chosen. 120 degrees would probably have been better, though, then the mask would need rotating 30 degrees to be facing front.

6 Click on the Sweep button. Selecting Spin would have held the end points and created a total mess! I know – I tried.

7 The blank mask shape is shown above. This can be used as the basis of a number of masks with different features, so duplicate this cell to frame 2 to continue the work. Repeat at each stage.

8 Quit the Object Editor.

9 Ensure that frame 001 is selected and make it the Source (Cells Menu).

10 Select frame 002 and make it the Target (Cells Menu).

11 Enter Cell 002

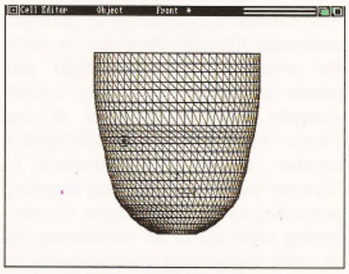
12 Now model the eyes and mouth (possibly create a new cell for each).

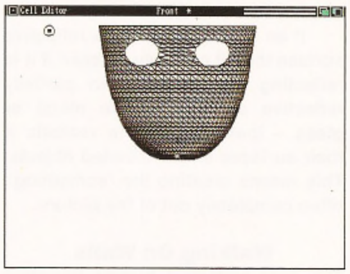
13 The next step is to select the mask by clicking its axis.

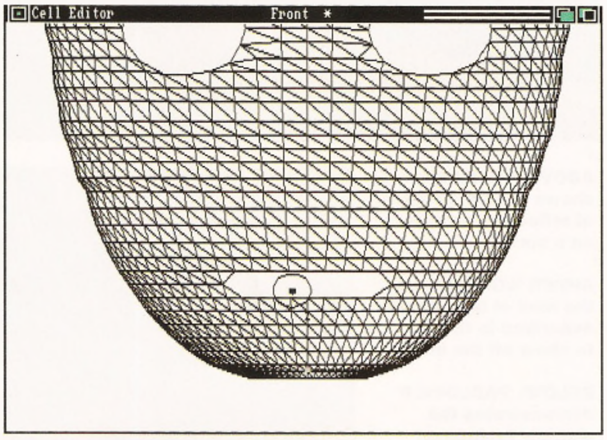
14 Use Pick Point and Multi Mode (hold down the left shift key) to choose an approximate circle of points. These will all be deleted so the size of the eye-hole is determined by the points outside this circle. The centre of the circle should be approximately half-way from the centre line of the mask to its edge. Still in Multi Mode select all of the points within the circle and Delete them (Edit Menu).

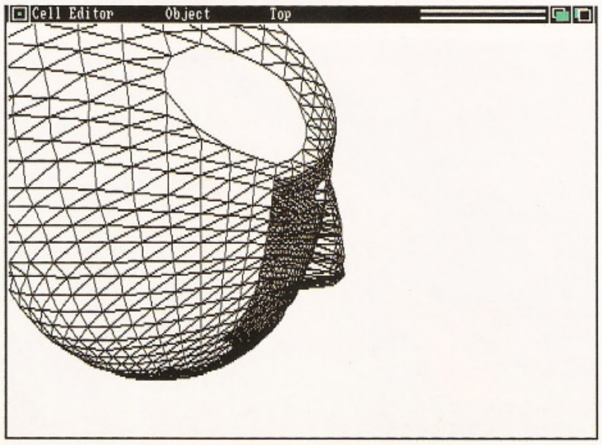
15 Because all of the diagonal edges run in the same general direction it may be necessary to Add some Edges across diagonals the opposite way to make the edge of the hole smooth. To Add Edges that are not adjacent you must come out of Add mode by Picking the Object, then returning to Add Edge. Remember to Add Face over the new faces; unlike *Sculpt,* making a triangular set of edges does not make a face so these triangles will not render.

16 Use Pick Point to select and move points on the circumference of the new eye-hole to make it more circular (or oval etc. depending on your requirements). Select the point once to Pick it and again to Mark it for moving (it turns red when Picked – just like noses – then the whole object turns green when it is Marked.) The next point that you click is the destination for the Marked point. Zoom in to get fine detail.









The various stages that went into the construction of the wire-frame mask on which all the surface mappings were performed. The mask shape is built in *Turbo Silver*'s Object Editor.

TOP LEFT: The basic original basket-shape.

ABOVE LEFT: With the holes for the eyes added. This is done in the Cell Editor.

BELOW: The mouth-hole is also added in the Cell Editor.

BOTTOM: Shaping the nose is slightly more simple, involving changing the axis and rotating the points.

The process described above is the one used for all operations involving cutting into an Object and distorting its points, edges and faces. It is a bit labour intensive but you will soon get the hang of it, developing other strategies to perform particular tasks.

For example, pulling out the nose could be done in exactly the same way, but a simpler technique is to move the axis and rotate the points that make up the nose.

17 Use Coordinates to check the exact position of the bridge of the nose on the x, y, and z axes. This is the position that the nose will be rotated out from.

18 Select the Mask object (it turns dark blue), enter Pick Face mode and pick one face (any face will do).

19 Press F6 to activate the Transformation requester and type in the coordinates of the bridge of the nose to the Translate settings. Close the requester and the axis moves to those coordinates. (Don't ask me why, but it works!)

20 Enter Pick Point mode and, holding down the left shift for multi-mode, Pick all of the points that make up the nose region, working down from the bridge. Remember that the very effective smoothing algorithm in *Silver* will make even very square-looking lumps look rounded.

21 Activate the Transformation requester and type in -20 on the x axis of the Rotate settings. This will rotate the nose out of the mask towards you around the axis at the bridge.

22 If you want the mask to look as if it has thickness, Extrude the eye-hole and mouth-hole points back into the face for the depth.

23 Pick the Mask Object and then enter Pick Point.

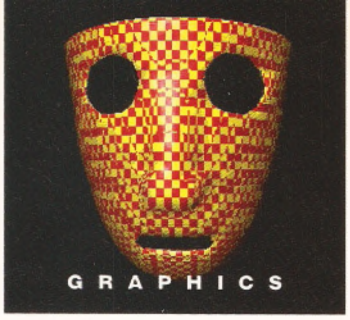
24 Pick the points around mouth and eyes in Multi-mode (left shift).

25 Select Mold which is to be found on the Settings Menu.

26 In the Mold Requester change the number of sections to 1 and the depth to that required. (In the mask 10 was used but 30 would have been better.)

27 Click on the close gadget and the thickness is extruded.

You now have a mask! To render the mask with surface effects see the Rendering Tutorial.



To speed up test renderings in full trace mode, a rectangular zone of any size can be selected anywhere on the screen. Only this zone is rendered so that careful positioning can quickly give a good idea of what a texture map or lighting effect might look like.

Another speed gain when testing full traces can be made by increasing the pixel size. Obviously there is a loss of resolution, but again, light or shadow effects can be determined quickly. Overall, if you want to render an animation or a complex object in anything less than a lifetime, avoid reflective and transparent effects and use the solid model option. The final image is virtually identical to a full trace (unless there are shadows).

Conclusions

After several weeks' use there is little doubt that the images produced by *Turbo Silver 3.0* are wonderful; there is none at all that the object editor is a pain. It is, at the same time, too complex and not powerful enough. Almost any object can be modelled but only with a lot of careful selecting, movement and editing of individual points and edges.

In particular there is no tool for producing smooth, organic distortions of the objects like Magnet in *Sculpt-Animate*. There is also no way of producing a mirror image. That said, the basic interface works quite well, switching quickly from Front to Right Side or Top view (though Back, Left and Bottom would also have been useful). Zoom and Pan are also quite effective and the ability to set each object to Quick Redraw speeds up the re-draw time of the editor considerably. Nevertheless, if you have *Sculpt3D* or *Sculpt-Animate 4D* and *Interchange* it would probably be easier to model objects in *Sculpt* and port them across.

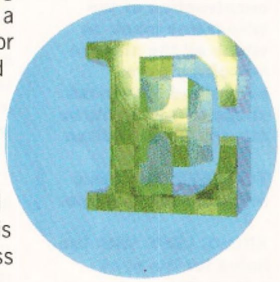
Animation in *Silver* we have not really tested yet. All of the tools for hierarchical and path animation seem to be there, but there is no obvious way to automatically generate transformations from one object to another – what *SA4D* calls Key Frame Inbetweening. The ability to cut, copy and paste frames in any order means that really complex animation choreographies can be constructed with ease – a real plus point.

Quibbles aside, it is the images that really matter; you can get used to almost any difficult interface if the final result is worth the effort. In the case of *Turbo Silver*, it is! ■

TUTORIAL THREE

LIGHT AND SHADOW IN SCULPT-ANIMATE

BELOW: This picture, 'E GLASS', shows how the standard checkerboard pattern can be used to new effect. The pattern gives an added sense of realism to the translucent 'glass' of the letter.

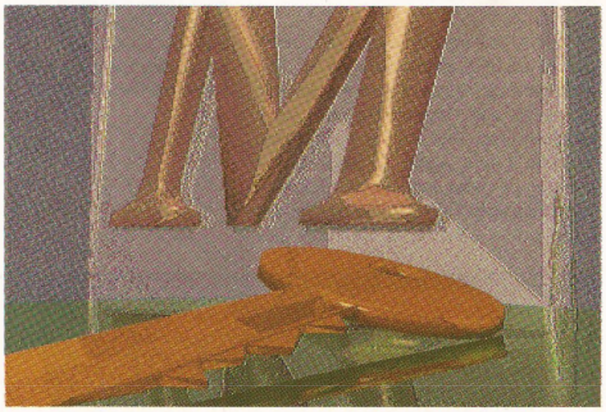


Paul Cowan runs a computer graphics business, Electric Pictures, in York. He produces animated logos and idents on an Amiga using *Sculpt-Animate 4D Deluxe Paint III* and *Photon Paint 2.* Paul has developed a number of simple techniques to improve the limited surface mapping properties of *Sculpt-Animate,* concentrating particularly on reflections. All of these techniques could equally be used in *Turbo Silver.*

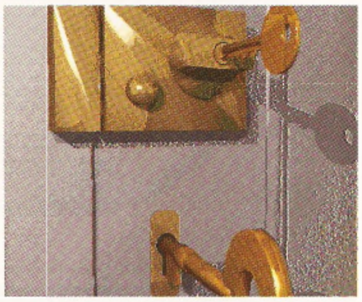
If an object has a 100% reflective surface then it can only be seen if it is reflecting something. Even partially reflective surfaces – like metal or glass – look much more realistic if their surfaces show reflected objects. This means creating the 'something', often completely out of the picture.

Walking On Walls

The only patterned texture provided by *SA4D* is the now-clichéd chequerboard pattern but this can be used to great effect if the whole scene is rotated by 90 degrees or more. This creates the illusion that the checks are wall or ceiling tiles, or, if a very small check size is used, a woven fabric like tweed.



ABOVE: 'ROOM M' shows the advantages of reflecting an object on a surface.



RIGHT: 'LOCKS' uses the kind of light panels described in the text to show off the metal.

BELOW: 'PADLOCK P' demonstrates the shadow technique.



Light Panels

A similar definition effect is shown in 'ROOM M' but this time it is an object within view that is reflected in the glass table – a key. In this picture are also several reflective metal surfaces, the key and the letter M on the wall behind. These are defined by a different sort of object – a luminous panel.

To get smooth illumination without shadows of objects in a photographic studio, a professional photographer creates a box of large translucent panels with floodlights behind. A similar structure can be made in *Sculpt* or *Silver* by creating panels and making them luminous. When rendered these project no light onto the objects, but show up as bright reflections. The background M in 'ROOM M' is reflecting several of these light panels.

Shadow Textures

Unlike *Turbo Silver's* textured surfaces, IFF backgrounds in *Sculpt* do not show shadows. Paul's solution to this problem is to render objects onto a black background and then port them into *Photon Paint 2* to create backgrounds and shadows, as shown in 'PADLOCK P'. This technique even works with animations:

1 Render the image or all the frames with no sky or ground (best to use a black background).

2 Select a background texture and Remap it in *Photon Paint* (*PP2*) to match the first frame of the animation.

3 Load this background to several frames in *PP2* (as many as you have memory for, minus 1).

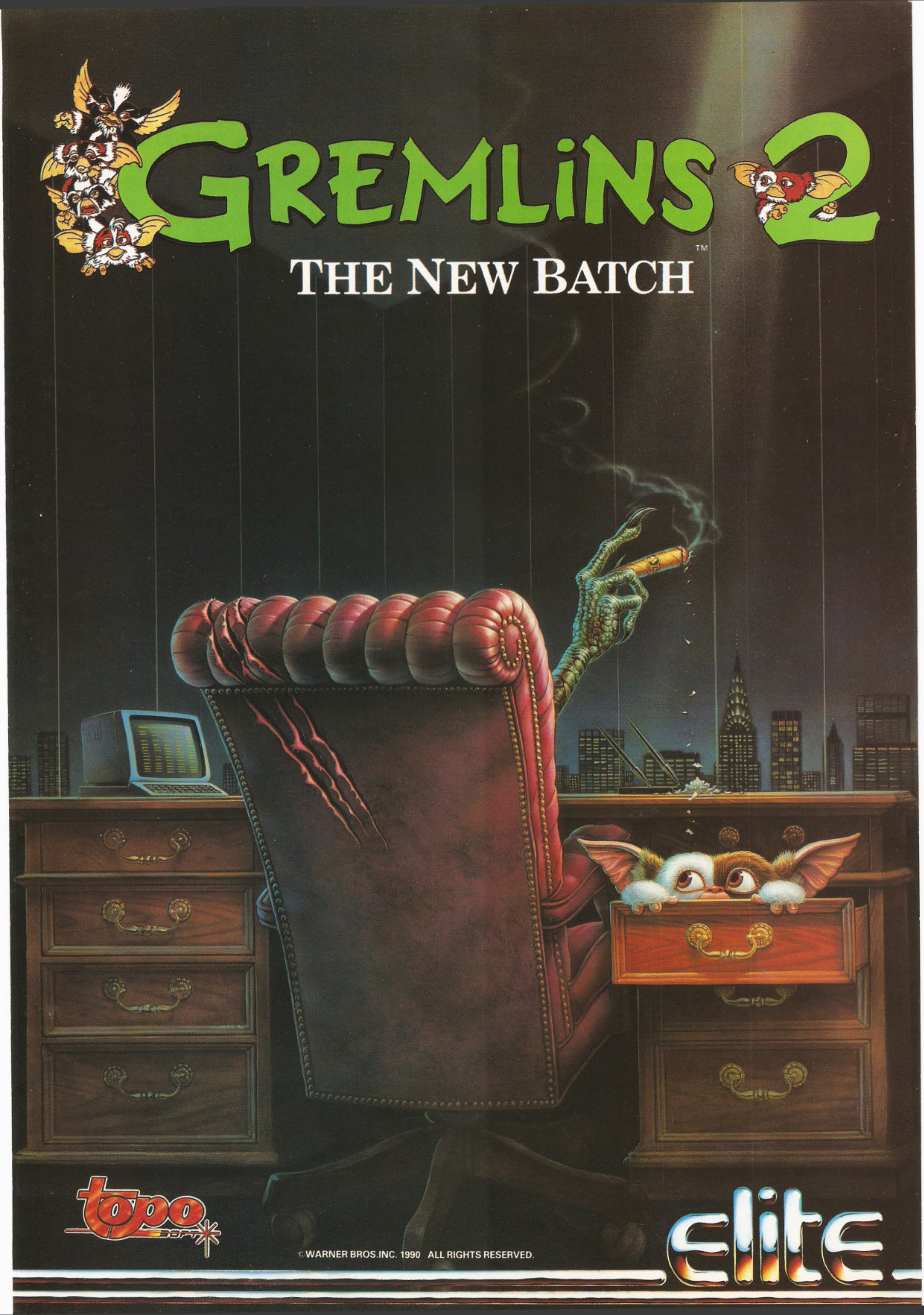
4 Load the first frame of the *SA* animation to the spare frame in *PP2* and pick up the whole screen as a brush (use the whole screen to get correct registration).

5 Define the angle of the shadow that you require (keeping in mind the position of the light's original source) and set the background to a suitable blend and colour.

6 Turn on coordinates and place the brush onto the first *PP2* frame where you want it to appear. Note the coordinate position. Save the frame.

7 Load the next *Sculpt-Animate* frame into the *PP2* spare, pick up the whole frame and position on the second *PP2* frame and paste at the exact coordinate position of the first frame to ensure registration and smooth animation. Save the frame.

8 If you have enough memory you should be able to put together a reasonable animation and compress and save it direct from *Photon Paint 2.* For larger animations, save each image and then produce the anim in *Sculpt, Animagic, Deluxe Video III* etc.



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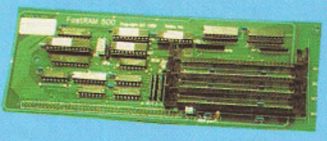
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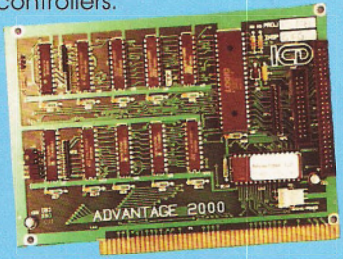
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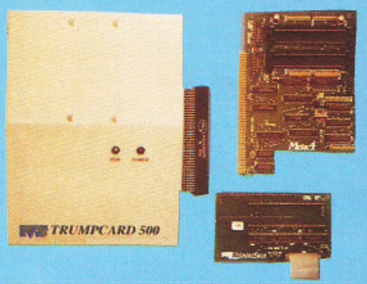
Adv Controller also supports optical drives, tape streamers & removable media drives. Cache buffering & 20 Nanosecond GAL Logic make this the fastest controller commercially available for the Amiga 2000 series. Programmable memory cache buffering is also available. Adv will support a drive in the landing bay or on the side of the card.

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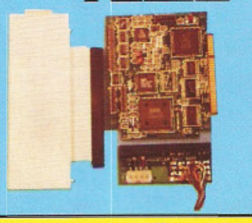
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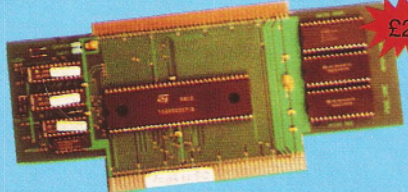
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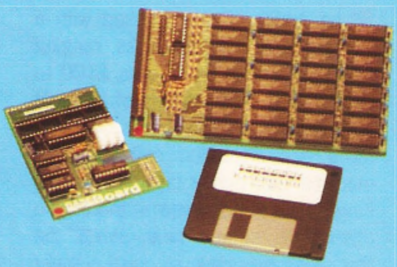
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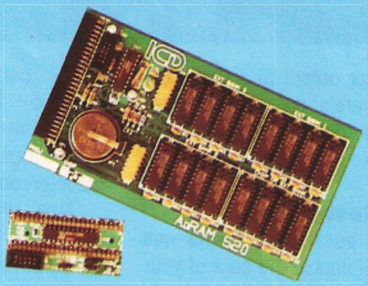
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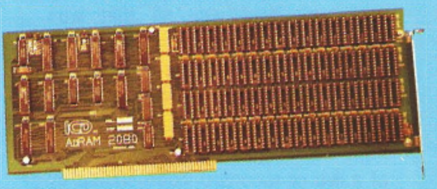


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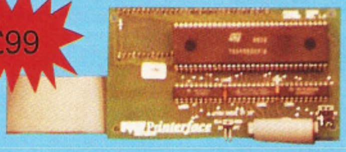
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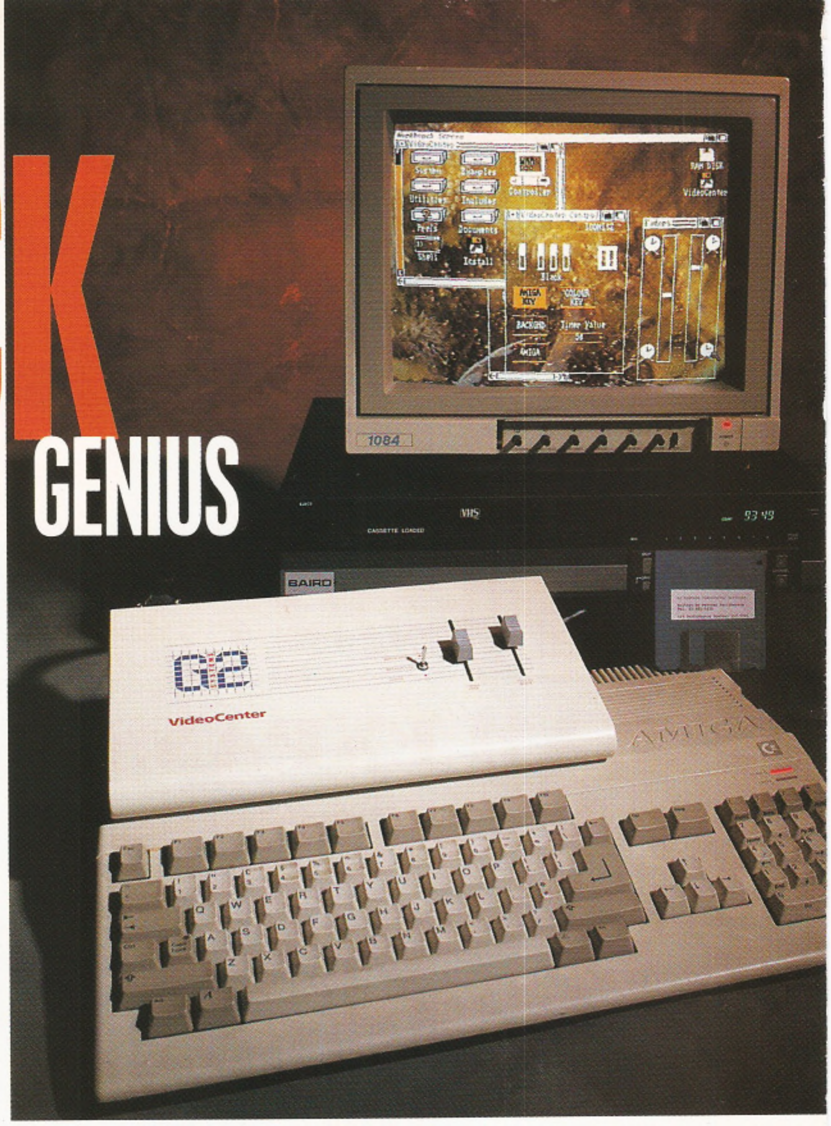


£99



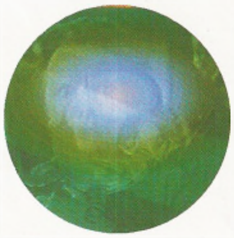
Digital RGB Splitter allows images to be digitised in full colour without loss from a camera or recorder compatible with all digitisers.

GENLOCK GENIUS



G2's VideoCenter may come in at £800 but it has all you need to become a Desktop Video director. **ANDY STORER** makes the connections...

The Amiga is now blessed with a choice of eight genlocks, ranging in price from as little as £100 to over £1000, and masses of low-cost and reliable video effects, editing, titling and animation software. The machine can rightly claim to be the King of Desktop Video – there's no other that comes near. While the Macintosh may have an equal number of add-ons and packages, the prices go all the way up through the roof.



The Amiga platform remains the only low-cost option because Commodore's engineers were forward thinking enough to see the possibilities of desktop video and build in the appropriate hardware right from the start...

Mere Technicalities

An external sync pulse generated by the clock chip was all that was needed, as it allows the mixing of computer and video signals. It permits the enabling hardware, the genlock, to synchronise the output from the Amiga's video chip with that of a live or recorded video source by synchronising the line and frame generators of each display's refresh rate. As such, both the horizontal and vertical scans of the two signals can be locked together.

But before this can be achieved, the three RGB signals from the Amiga must be combined to produce a composite or PAL video signal so they can be mixed with the composite video signal generated from a video source. Then it's simply a question of using hardware switches to flick between the two or merge them using the monitor's screen interlacing.

At this point, it's important to bear in mind that when you see an Amiga-generated image superimposed over a video picture all you are seeing is a mix of signals. As such, you can by all means record that mix to videotape simply by redirecting monitor output to a videotape deck, but there's no way you can save that mix to disk. We're not talking digital mixes here – just analogue.

> ...it does exactly what is required – rock-steady superimpositions and perfectly-graduated fades and cross-wipes...

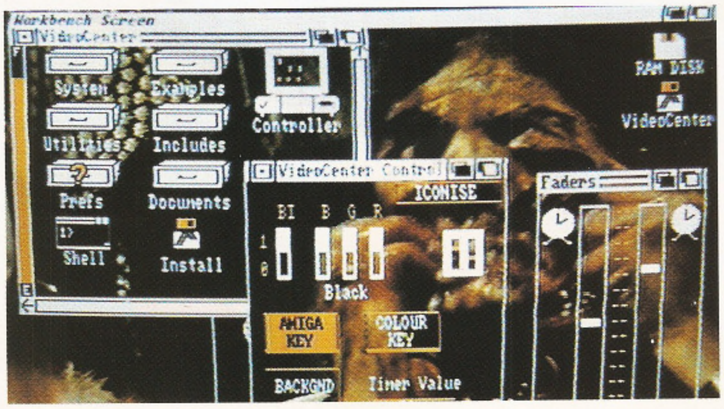
Cost Effect

So why is it possible to spend well over £1000 – double the cost of your computer – on some relatively simple locking and switching hardware? Well, aside from mark-ups and profit margins, there's the fact that such devices are not mass produced and therefore unit costs are high. But there are also the main factors of features and quality.

The VideoCenter is built by a company with a long history of developing broadcast-standard genlocks costing up to £70,000, so there's years of expertise in the unit. For instance, all the input and output sockets on The VideoCenter are directly connected to its custom-designed PCB, which instantly reduces the main cause of bad quality reproduction – signal instability due to wire interconnections.

Also, the unit auto-adjusts to fluctuations in the RGB signal output of different models of the Amiga. But perhaps the overriding quality factor is the VideoCenter's Super-VHS capability. S-VHS is preferable to standard VHS because its colour and video signals are separately encoded and as such produce less colour aberration in display.

In fact, because colour is coded separately the signal doesn't even need to be combined as PAL – it can be reproduced as full RGB. And you know what a difference that makes just by looking at the quality of your Amiga's display from its RGB feed compared to its composite video out.













Desktop Video On Your Amiga

So what kind of things can you use a genlock for? Firstly, any demo or animation sequence too big to fit on disk can be sent to videotape for later display, but this is the only the tip of the iceberg. Desktop video is all about adding titling, logos and captions to videotape material – this material can always be other Amiga material you can't add moving titles too in a stand-alone package

But it's much more than just overlayed titles, no matter what animated wizardry may be involved. Video titles and graphics, presentations, advertising, training, education and security systems are the growth areas. There's no less reason to bring spreadsheets and databases into proceedings than flashy graphics and animations.

For instance, making use of a genlock it would be quite easy to produce a database that could incorporate moving video sequences – it might reside on videotape but you could just log the tape and use a remote control to navigate it .

Although lately some genlocks claim to feature S-VHS capability, they cheat by processing the signal as composite and then converting it back to S-VHS. The VideoCenter maintains the signals intergrity throughout. So the latest addition to the Amiga's range of genlocks may seem expensive at £800, but at the end of the day you're paying for quality of engineering.

Installation Sensation

While all this may sound a little too technical, the actual installation and use of the genlock couldn't be easier. The VideoCenter comes with its own power supply and cables and simply sits between machine and monitor. The 23-pin RGB lead which usually connects your Amiga to your monitor is plugged into a VideoCenter input and a corressponding RGB output carries the signal to your monitor.

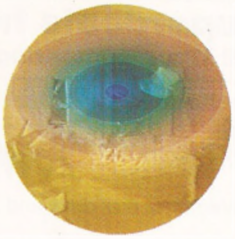
By connecting a videotape recorder or camera via the supplied composite video lead to the genlock, you then supply the video signal you wish to mix. As a second video input is also available on the VideoCenter it also means you can combine two incoming video signals if you have, for instance, a camera and a video deck. Once the VideoCenter software is loaded you call up the main panel from which you can control all the hardware switches that are found on the unit by software instead.

There are four options. Video source signal only, Amiga signal only, video source superimposed over Amiga signal and vice versa. The latter two are known as 'keys' and the effects produced is referred to as foreground or background masking.

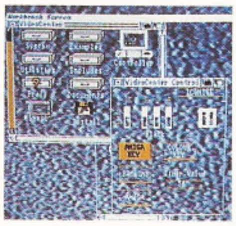
Superimposition, be it foreground or backgound, relies on a 'key' colour. In television production blue has traditionally been used as the key, but, by and large, most Amiga genlocks default to black – with a few offering the choice of any colour as a key.

G2's VideoCenter offers you 16 selectable colours from the Amiga's output. What happens is that all appearances on screen of the chosen colour are superimposed with the incoming video signal. To all intents and purposes the signals are mixed and can be output to videotape as a single signal. VideoCenter also offers front panel control of keying, cross fading between signals and fading either signal to black so that 'live' mixing and effects can be achieved without the cursor appearing on screen.

However the software control also allows timed cross-fades and fades to black thereby removing human error. By clicking on the clock icons, a mix can be made to fade up or down in the time specified. In addition, any combination of fades can be configured by simply moving a cursor across a 360 degree grid.



The images on this page are all produce using colour-keying to superimpose an Amiga graphic onto a video frame. This idea should be very familiar from television, where a 'chromakey' system usually uses bright blue as the colour into which the second signal is keyed. That's why weathermen never wear blue!



Conclusions

G2's VideoCenter does exactly what is required – rock steady superimpositions and perfectly graduated fades and cross-wipes. Use it in combination with a package like Electronic Arts' *Deluxe Video III* or ZVP's *Video Studio* and you have a simple solution to saving extended animations and titling to tape.

For this is precisely why a genlock is a good investment if you have a video recorder. You can think of the tape deck as a device to which you can 'print' animations, logos, advertising sequences – even taping that impossible dash through the final level of *Xenon II* to impress your friends. But, at £800, VideoCenter is going to be purchased for professional applications and G2 is in a position to offer a range of additional kit, priced up to £25,000, to complement the system's potential. ■

DESKTOP VIDEO SOFTWARE

GENERAL VIDEO SOFTWARE

Deluxe Video III

Electronic Arts, 0753 49442, £99.99

The best all round package for combining computer and video images via a genlock. *DV III* offers super smooth animation, borderless overscan, dozens of transitions, frame-accurate recording down to a 1/60th second, and an object-orientated interface enabling you to author interactive presentations.

ANIMATION SOFTWARE

Deluxe Paint III

Electronic Arts, 0753 49442, £80

This excellent package produces high-resolution keying areas for genlocked superimposition and can be used for producing background pictures and retouching images.

Real Things

RGB Studios, 082 581 2666, £25

An add-on for *DPIII* which provides scenes and brushes with which you can construct detailed, realistic images and choreographies of animated sequences with ease.

VIDEO TITLING AND EFFECTS SOFTWARE

Video Studio

Maze Technology, 081 520 9753, £99

Incorporating 12 of the most commonly used video production utilities in one package, this excellent package also includes 20 broadcast-quality fonts along with 9 wipe patterns and a range of broadcast test signals. Fades up and down and logo and copyright screens you can customise yourself are also included.

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VIRTUAL AMIGAS

Wander into your screen for a walk through the innovative Mandala system with **ANDY STORER.**

They're live! They're Interactive! They're the world's first video games that put you into the screen, into the action and in command". So claims the Canadian company behind Mandala technology – "an open door into virtual realities".

Toronto firm Vivid Effects has developed the Amiga-based Mandala video system to enable a user to interact fully with computer generated and live video images. Mandala features a heavily-customised 68000 chip, Amiga graphics chips and a souped-up maths co-processor to process incoming video signals from a camera mounted above a monitor.

Utilising 9Mbytes of RAM, Mandala calculates the position of the user or player quickly enough to be able to re-position graphics code in accordance with human movement. What you see on screen is a digitized image of yourself overlayed onto a live or recorded image. This image can either be an Amiga generated display or a video sequence, or, through making use of a genlock, a combination of both.

Making a movement causes the figure to move correspondingly on screen and software handles the respective background changes. The trick is to process that movement in real time so that the user senses no delay in his movement *vis a vis* the screen refresh rate. It's a trick Vivid Effects isn't worried about revealing.

If this level of interaction weren't enough, the system is also MIDI compatible, allowing users to play musical instruments without actually touching them by integrating sound modules, sequencers and synths. One Vivid Effects demo allows you to play drums just by making drumming motions. Labatts' Beer has used the system in public promotions to invite users to make their own pop promo. In addition, Vivid has also taken the system to various live music video performance art events in New York, Amsterdam, Tokyo and Paris.

Already the system is being used in museums, science centres and theme parks for more interactive information requirements, but the company is just beginning to introduce more sophisticated variants of Mandala into Canadian shopping malls and arcades.

At the recent Tech 2000 exhibition in Washington DC, visitors were invited to 'Step inside television and participate in a virtual world reality… just a wave of the hand will instantly transport you'. 10-foot by 8-foot walk-in environments were constructed which contained large-screen projections of graphics and moving video running off laser disks linked by Amiga genlocks. Video cameras followed the movements of people entering the space and they were able to 'wander' for up to an hour through 3D virtual environments, seeing their position on the screens depicted by white silhouettes.

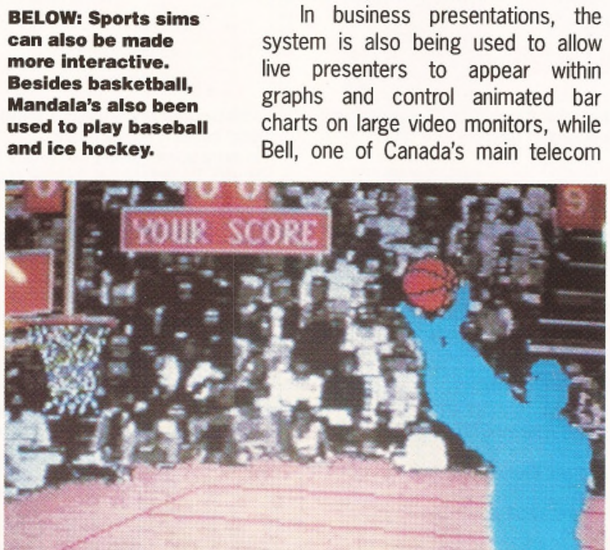


ABOVE: Using the system simply requires contorting yourself wildly into the most embarrasing poses. Whether it's limbo dancing or break dancing, Mandala would undoubtedly be a great hit at parties.

Vivid also put Mandala to gaming use too. One interactive environment is Mandala Baseball where a player holds an animated baseball bat to hit oncoming animated baseballs. At the Canadian Hockey League's Hall of Fame a system was demonstrated in which players saw themselves in front of the goalnet and had to move hands and feet to prevent scores.

In business presentations, the system is also being used to allow live presenters to appear within graphs and control animated bar charts on large video monitors, while Bell, one of Canada's main telecom companies, is using Mandala as a teleconferencing tool. Vivid lease the system to corporations at a cost of $1000 to $1500 a day.

BELOW: Sports sims can also be made more interactive. Besides basketball, Mandala's also been used to play baseball and ice hockey.



So this forefront technology doesn't come very cheaply – a basic installation starts at around £10,000 and can cost ten times that depending on a client's needs. Some nine years in planning, Mandala has finally come together with the advent of the Amiga's new graphics handling and multimedia capabilities. But the system's inventors, Vincent John Vincent and Frank MacDougall, are now developing home versions.

The home unit will comprise an add-on box for the Amiga which will incorporate all the necessary hardware additions and the video camera. The company hopes to have such a home system available in just over a year and expects the price to be around £600.

In the meantime, Vivid Effects is currently negotiating with top US games houses to produce home versions of interactive sports and action simulations. It would seem that the Amiga video adventure game is just around the corner. You can also bet that the CDTV is going to be one of the first recipients of Mandala's exciting potential. ■

BOLDLY GOES WHERE NO MAGAZINE HAS GONE BEFORE

SCREEN PLAY

NIGHT OF THE COMET!

Novagen's Mercenary touches down in Damocles P.36

LOST PATROL

Ocean's grunts do a tour in the DMZ P.60

NEUROMANCER

Hacking for fun and profit in 21st century P.71

RED STORM RISING

Nuclear subs get serious in the North Sea P.52

MURDER

But did the Butler do it? P.45

THE RATINGS EXPLAINED

GRAPHICS
Good graphics are an important part of any game; if the power is there, it should be used to the full. Both static and moving graphics come under scrutiny in this rating, but remember, graphic wonders alone do not a great game make...

SOUND
With stereo capabilities the last thing you want to hear are Spectrumesque beeps, right? Title tunes and effects all add to the atmosphere of a game and good sound can greatly increase your enjoyment.

INTELLECT
How much real thought do you have to put in to play the game? Just because a game is mindless doesn't necessarily mean it's bad, but a game with a high intellect rating says immediately that you'll need to think to gain maximum enjoyment.

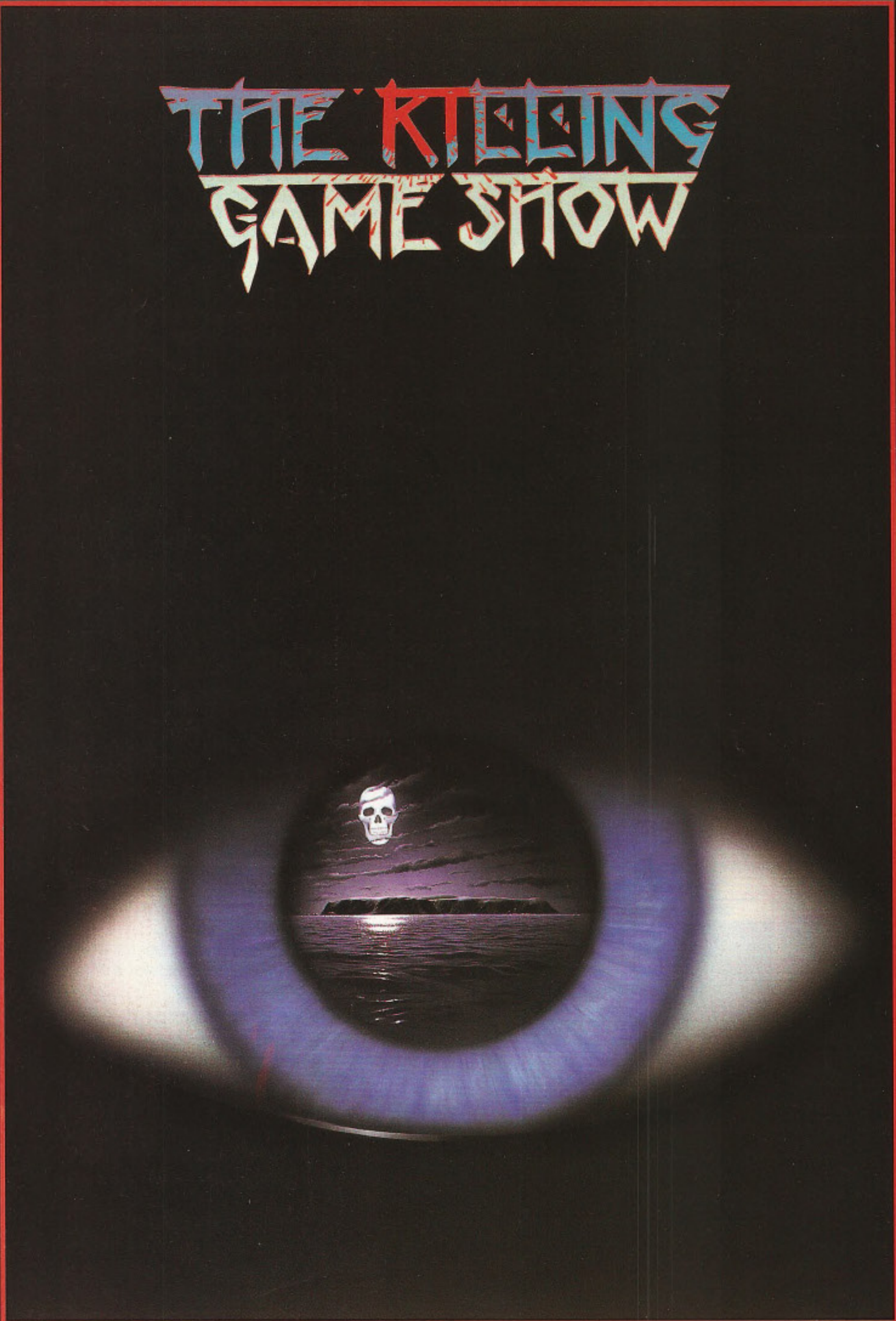
ADDICTION
How easy is a game to pick up and play? How much sheer fun will you get from it? Will you keep coming back? Important questions, all answered by a quick look at the Addiction rating.

OVERALL
A percentage mark that takes into account all the ratings, plus extras like lasting interest, documentation and packaging.

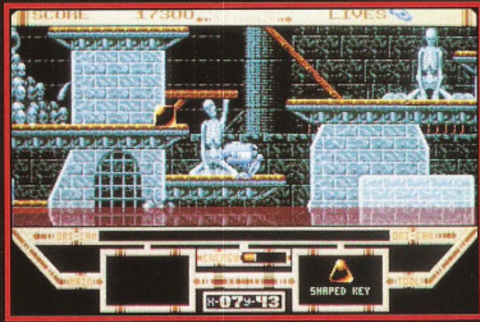
THE TEAM
There are two main Amiga Format reviewers: Trenton Webb made his mark reviewing CPC games for our sister magazine Amstrad Action. After a year and half among the eight bit boys he's finally made the move to the big stuff. A habitual games player whose personal tastes encompass everything from the board-based Squad Leader to Amiga-based arcade conversions.

Maff Evans joined *AF* after doing sterling service on *ZZAP! 64*. Recently he's been splitting his time between us and our sister mag *ST Format*, but after seeing the light has come out of the cupboard under the stairs and joined us full time. Maff's a solid all-rounder with a very nifty trigger finger and more than a match for most would-be high score challengers.

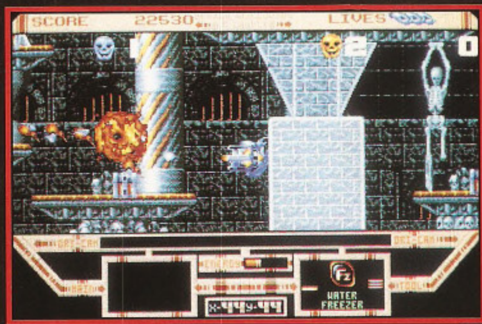
WELLTRIS P.59 ■ HARLEY DAVIDSON P.48 ■ LAST NINJA II P.68











THE KILLING GAME SHOW . . .

. . . WILL HAVE YOU CLIMBING THE WALLS – IT'S THE ONLY WAY OUT!

Suited in limited-protection armour you're the unwilling contestant on THE KILLING GAME SHOW. In front of a TV audience of millions you must battle your way to the top of 16 Pits of Death infested with Hostile Artificial Life Forms specially created by THE KILLING GAME SHOW's manic scientists to give you a hard time.

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First prize is your life — Don't waste it!

Screen Shots from the Amiga version

SEEING IS BELIEVING

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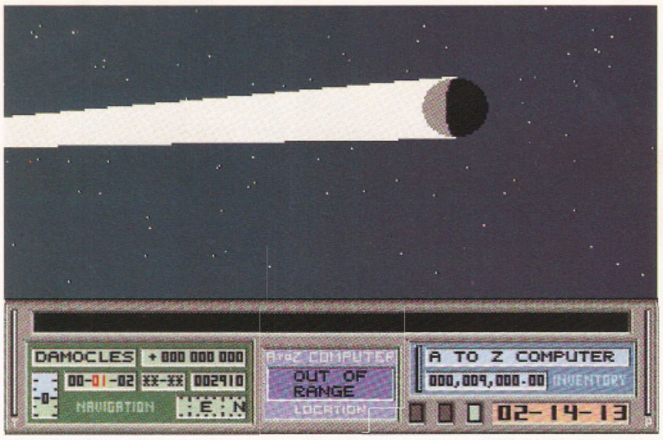
PSYGNOSIS

In *Damocles* – Novagen's long-awaited follow-up to the highly-successful *Mercenary* – you play the hardy soldier of fortune that rose to fame after his antics on the planet Targ. This time, as well as struggling for personal financial gain, the future of a planet is at stake. The comet Damocles is on a collison course with the planet Eris. You must follow the trail of clues in an attempt to find the mega-destructive Novabomb and the necessary triggers in order to destroy the comet.

Unfortunately, since the entire population of Eris has fled to safety, the only clues available are by way of documents left lying around various locations on Eris. It's surprising exactly how much information can be gleaned from a discarded fax message.

The trail of clues leads you to the whereabouts of the bomb and the triggers, but the post-office being as it is, they seem to have been... er... 'misplaced' somewhere along the line. You must use the clues and some pretty hefty lateral thinking to find your way around the Gamma system, picking up and making use of a variety of items along the way.

But don't worry too much about the outcome. After all, it's all for one – and every man for himself! ***Maff Evans***

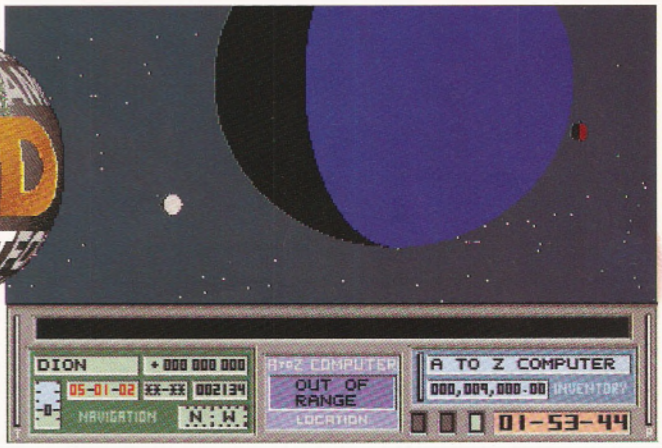


The deadly comet Damocles itself, hurtling through the blackness of space towards the impending destruction of planet Eris.

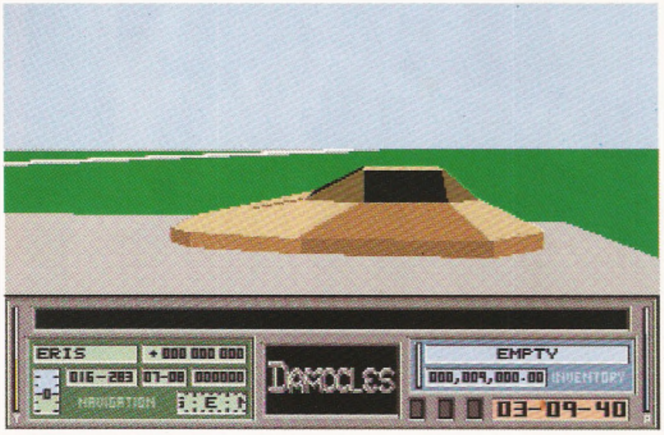
CLES

AMIGA FORMAT GOLD

Joystick and Keys



Where's the map...? Now then – Dion... Oh! There it is in front of us! Better get the brakes on sharpish!



Vauxhall Calibra? Thing of the past! Feast yer eyes on this beautiful little mover! One careful Presidential owner...



This building looks important. What can it be? Unfortunately the computer doesn't seem to want to tell us!

get the Novabomb and triggers together, never mind stopping the comet. If you have a lot of things to contend with in life – like work, eating and sleeping – then think twice before you play *Damocles*, as these things will almost certainly be ignored!

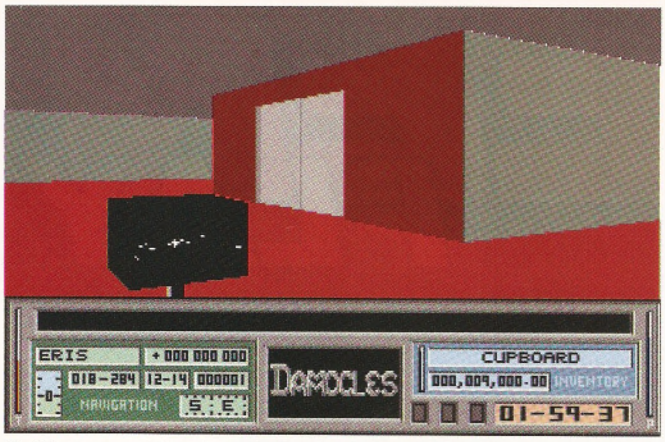
JUDGEMENT

After the incredibly long wait, the inevitable doubts about how good the game would actually be began to creep in. The original *Mercenary* and the *Escape from Targ* extension were hailed as ground-breaking games and managed to secure their place in the software hall of fame. So how does *Damocles* compare (doubts not withstanding)? You can all breathe a sigh of relief, since the answer is most definitely 'very well indeed'. Paul Woakes has included all the aspects that made *Mercenary* such a hit along with more additions than anyone could have hoped for. The solid 3D works brilliantly, the vast playfield is just begging to be explored and the puzzle element is conducive to long hours sat in front of the monitor. Even in this day and age, with a myriad of 3D adventure games vying for the public's attention, *Damocles* is a shining island gem in the software sea. If you're not convinced, then try it as soon as possible – here our case rests.

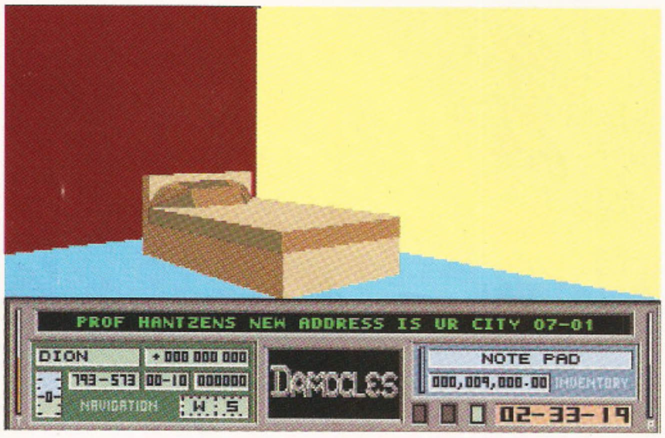
GRAPHICS	8
SOUND	3
INTELLECT	8
ADDICTION	8
OVERALL	92%



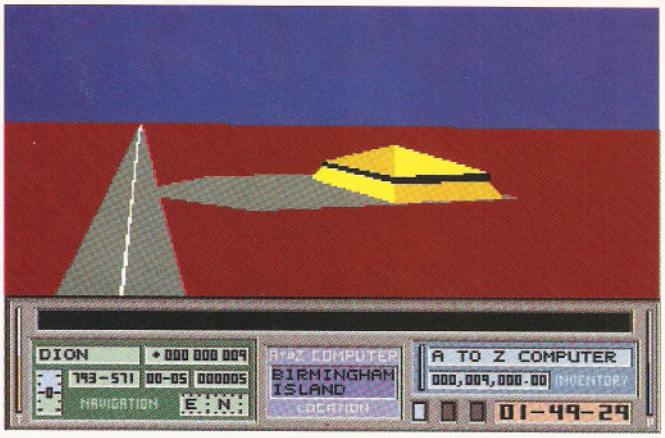
Get lost? Nah, no problem. All we have to do is follow these here road signs... now which exit do we need...?



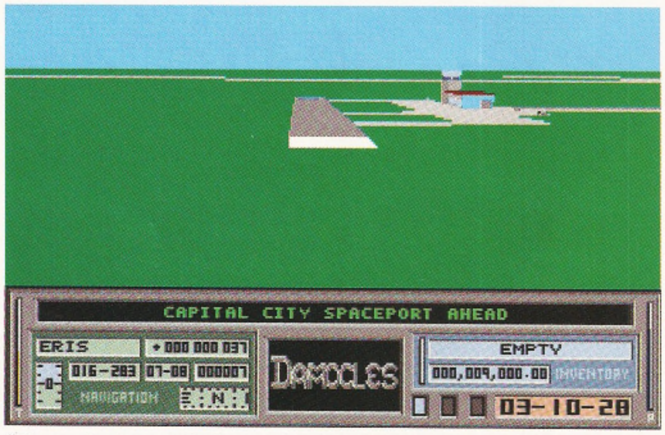
Walking around the dusty halls of Eris Post Office reveals this useful location-finder. So why do they still lose the mail?



Ah... isn't that thoughtful, putting a bed in the waiting room while they search for your 'misplaced' packages? Just five minutes... ZZZ.



I honestly don't remember seeing one of these buildings amongst the towers in the Pride of the West Midlands!



"Please fasten seatbelts, extinguish all cigarettes and pass the used sickbags to the stewardess on leaving the plane. Thank you."

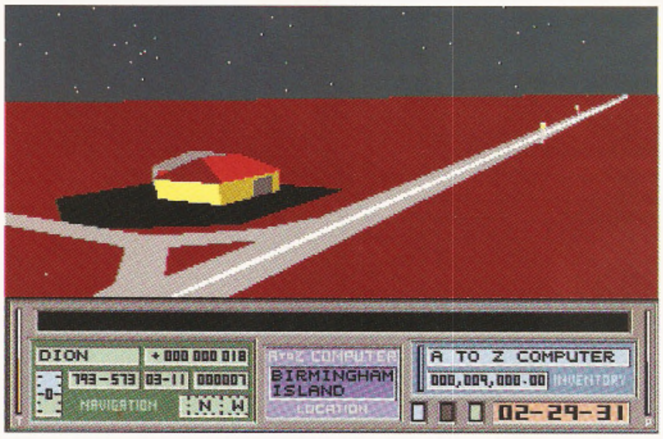
You, the Mercenary, have just managed to get it together to blast away from the hostile world of Targ when a message flashes up on your computer terminal. "Distress call from Eris State President, Dialis Planet 5, Gamma system – the comet Damocles is on a collision course with Eris. Assistance required urgently. Large reward."

Those last two words are particularly interesting... they involve money! After toying with the idea for a while, you think "Sod it, I want a holiday!" You send a brief reply to the President, then decide to cruise around taking it easy for a while. After a few months, the cash supply is finally beginning to dwindle... looks like it's time to check out the missions available. What about that Eris problem? Could be mucho moolah for that one, you think, so it's off to the Gamma system.

Benson, your computer, takes you in to land at Eris Spaceport, where a VIP limo has been thoughtfully left so that you can make your way to the President's office. The premier is a little miffed that you've taken this long to arrive and has, in fact, decided it's a good idea to leave the planet along with the other evacuees. Oh well, I suppose you'll have to look for the clues yourself...

DAMO

NOVAGEN £24.99 ■



Who cares if they're asleep at this time of night, let's go and strafe the living nightlights out of the place... DAKADAKADAKA!

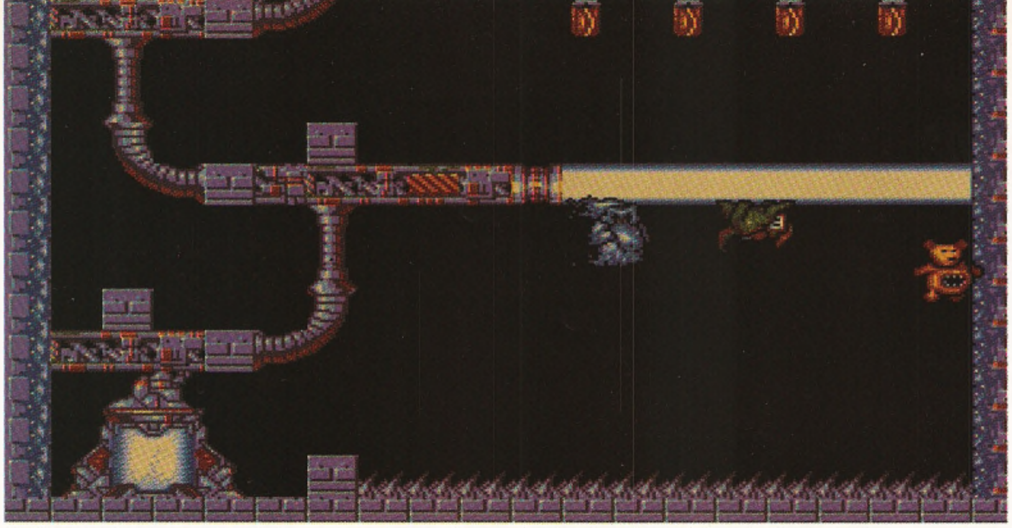
GRAPHICS AND SOUND

Damocles' 3D world has been superbly designed, using solid and smoothly animated polygons to build a believable world to explore. One point where solid 3D games often fall down is by the incompetent use of clipping – when sections of buildings and objects often appear and disappear at odd moments to save memory. *Damocles* manages quite happily to conquer this obstacle, so that everything you see approaches from a speck in the distance to full size in a very realistic way. Unfortunately the sound doesn't match up to the quality of the graphics. All the effects are far too thin and synthetic to create any atmosphere, so the volume will usually end up in the 'off' position during play.

LASTING INTEREST

The sheer size of *Damocles* is quite remarkable (to use a famous sports idiom). The big cities lie on huge continents, which sit on massive planets surrounded by a vast solar system. Simply flying from place to place eats up an incredible amount of gametime. All the locations have their own specific atmosphere, depending on the planet and the purpose of the building, and even the trivial locations have objects lying around the rooms.

Leaping straight into the game and zooming from place to place won't get you very far, though. You really need to have your thinking hat firmly attached to your noggin to link all the clues, and it will still be a rather long time before you manage to



Quiffy crawls along a handy beam to get away from a nasty ghostie, but time is tight – if that beam turns off then it's a deadly plunge past the psycho teddy to the spikes below.

FLOOD

ELECTRONIC ARTS £24.99 ■Joystick

After coming up with the graphically superb *Fusion* and the highly successful deity simulator *Populous,* Bullfrog have pushed off in yet another direction by releasing… wait for it… a good old-fashioned platform game!

In *Flood,* you play a tubby little fellow by the name of Quiffy. He is the last surviving member of the Blobbie race, his comrades having been wiped out by the evil Psycho Teddies and the dread Bulbous-Headed Vong. Life in the caverns is hazardous for a lonely young Blobbie, but it could always be worse… the caverns could get flooded! Ha-ha! This is when the phrase 'famous last words' has a poignant ring…

Cavern religion has long told of 'The Coming of the Taps of Wrath', a fearful time when the old and near-forgotten water demons will begin to fill the caverns with water. It looks like the priests were right – the flooding has begun. This is the last straw for Quiffy, who has decided to get his lil' ol' green butt outta there.

You must fight your way through a series of caverns, battling the dangers of deadly traps and vicious monsters. The exit to each cavern is in the form of a teleporter, which is linked to a 'social conscience' computer. The computer will only allow the portal to open when there is no rubbish lying around, so Quiffy must pick up all the rubbish in the cavern before he can escape.

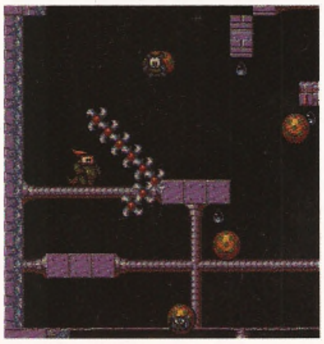
Occasionally, Quiffy may find a weapon along the way, including dynamite, grenades and a pretty awesome flame-thrower – just right for blitzing those evil trash-scattering Vong! ***Maff Evans***



These snails seem to be impervious to the effects of the flood, so a quick grenade lobbed into their midst seems to be in order!



No time to enjoy the ride down – those cans need to be collected.



Let those shuriken fly to blast the creatures out of the caverns.



Aren't boomerangs fun? Right, this one up the left nostril… first go! Bah! Missed! Oh well, back to the acting!

GRAPHICS AND SOUND

As you'd expect from Bullfrog, a lot of care has been put into the game's presentation. The graphics are well drawn and coloured, with a huge dollop of the 'cute' factor that seems to be all the rage at the moment. The sprites have a cartoon-like appearance, but the use of colour and shading gives the characters a solid appearance not usually seen in cutesy games. The sound is equally as impressive, featuring a suitably bubbly soundtrack to introduce the game and a whole host of jovial splishing, ticking, clanking and yelping effects to back the action, which polishes up the whole appearance with Bullfrog's own special brand of digital Mr Sheen.

LASTING INTEREST

The game begins easily enough, but the going starts getting pretty tough around Level Seven, and there are over 30 more still to do! This should keep platform fans wrenching their joysticks around well into the night for weeks. However the game does prove to be rather annoying at times – especially on some levels which require a fair amount of luck to complete – which isn't really a good thing with games of this type.

JUDGEMENT

Producing such an irreverent and jovial game as *Flood* is quite a brave venture for Bullfrog, but in all fairness they have managed to produce a playable and good-looking game. Even with its annoying little quirks, there are few straightforward platform games that can manage to keep leap-and-collect fans playing for as long as *Flood* will keep them captivated. The cute sprites and jolly sound are well up to the standard we'd expect from Bullfrog, but it's doubtful whether the game will have a similar effect on the market to that of *Populous*. Nevertheless, *Flood* is one of the best games of its type – it's just that the genre is in some danger of wearing a little thin these days.

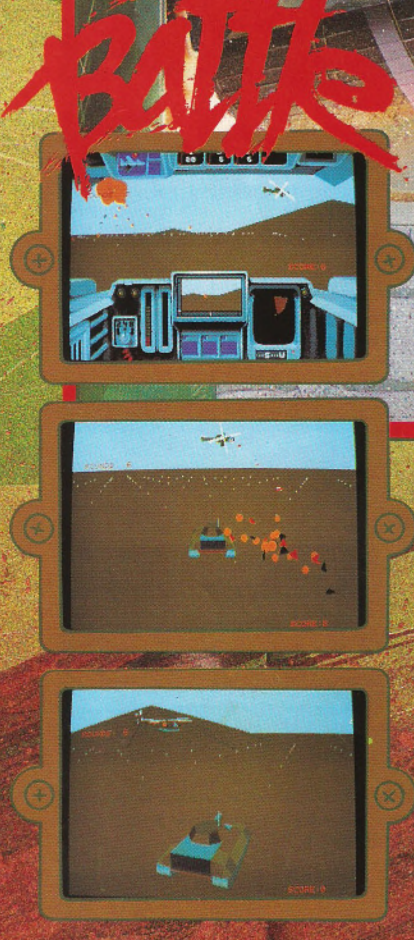


GRAPHICS	8
SOUND	8
INTELLECT	3
ADDICTION	7
OVERALL	84%

ENTER BATTLE COMMAND FIRST INTO BATTLE... LAST TO LEAVE



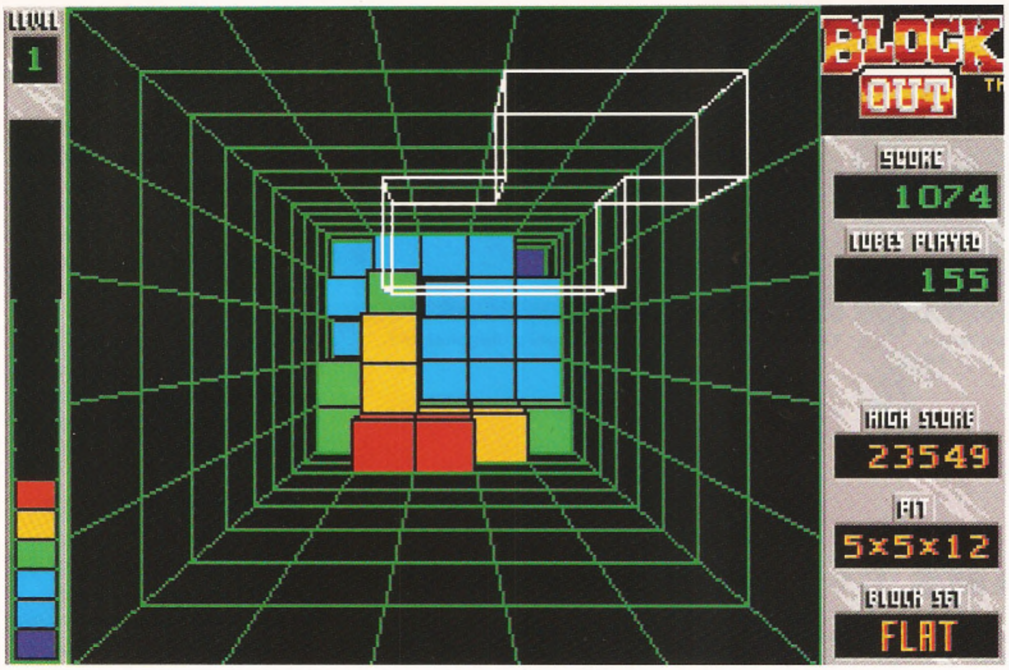
ATARI ST
CBM AMIGA
IBM PC &
COMPATIBLES



Set in the near future, as an alternative reality, BATTLE COMMAND is an arcade/strategy game in which the player controls a single "MAULER" Assault Tank in one of 16 scenarios (missions) in the ultra war, fought between two dominant races in the NEW WORLD. The latest phase of the North/South war has been going on for over 10 years, with a stalemate eventually developing - a standoff between armies massed over a long dug-in battlefront. Such are the defensive capabilities of each side, full scale attacks are suicidal, so any offensive moves are, by necessity, small "behind the lines" actions performed by elite troops in specially designed vehicles. The Mauler is the latest such machine - capable of being lifted in and out of hostile territory by fast stealth choppers and armed with the most advanced weaponry the Northern scientists can devise.

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Quick! Twirl that block around and fit it in the corner! After all, this is only the easy level with a standard sized well and flat blocks, so you can't let it win for Gawd's sake!

GRAPHICS AND SOUND

Sound in the game is rather minimal, the most noticeable piece being the clasical loading music. Elsewhere in the game sound is used sparingly, providing only the odd effect when a layer is completed. The graphics, although simple, portray the action very well indeed. The clear, colourful displays and smoothly shifting shapes floating down the shaft go together to make a well-presented and good-looking puzzle game.



Just what is needed – a nice cup of tea while the game's paused!

BLOCK OUT

RAINBOW ARTS £19.99 ■ Mouse/Keyboard

With the follow up to *Tetris* arriving in the form of *Welltris* (reviewed elsewhere in these pages), it's not too surprising that similar games should appear. American development company California Dreams have been rather quick off the mark and have come up with their own interpretation of the falling shapes genre with *Block Out*.

The game is based in a square well shape, with falling blocks having to be constructed into patterns on the floor, but this is where the similarity to *Welltris* ends. Instead of the shapes being flat tiles, *Block Out* contains solid 3D objects which can be rotated in three axes. The idea is to place the shapes in the well to form layers, which when completed are removed from the playing area.

If any gaps in the layer are blocked off from above, then the next, higher layer must be completed before access to the holes can be gained, thus making the going harder. If the blocks mount up filling the well, then the game is ended and you start again.

There are three basic modes of play corresponding to different block sets – Flat, Basic and Extended. The flat set has shapes only one block deep, so it's easy to form them into layers. The Basic set contains more irregular shpaes and the Extended set can be of any proportions, making the game particularly tough to crack.

Different game types can be created from an options page, determining the block set to be used, the size and depth of the well and the starting speed of the game. So a massive eight-by-eight well 20 blocks deep with extended blocks piling into the shaft would undoubtedly be rather hair-raising!

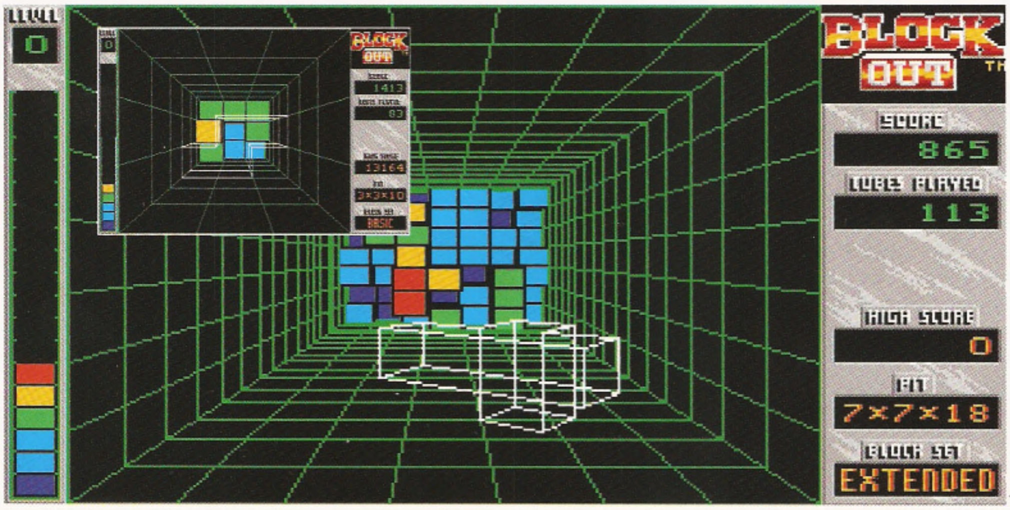
Maff Evans

LASTING INTEREST

The action is fairly easy to get into, the only real hassle being the 3D rotation to get the pieces to fit. However the system isn't that complex and soon becomes second nature. As you'd expect the going is pretty compulsive, and even if you do think you've mastered the art of layer building, shifting the options around could add considerably more challenge than you'd expect!

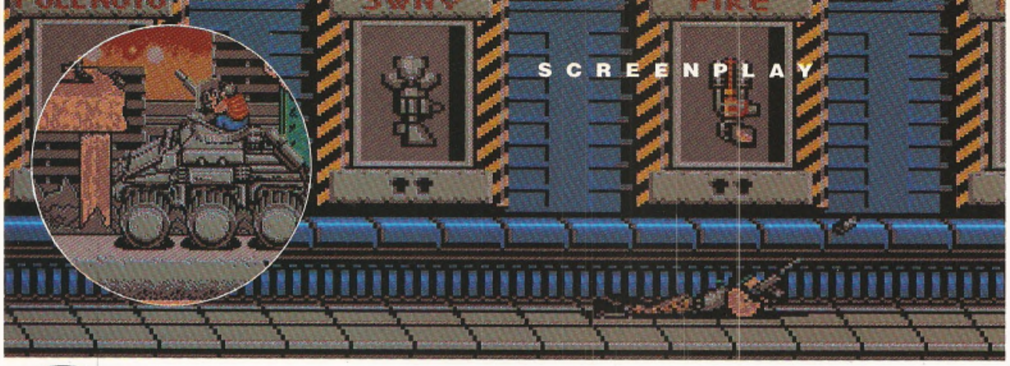
JUDGEMENT

On first sight, *Block Out* could well be passed off as a *Welltris* rip-off. This is unfair, since *Block Out* is a true 3D puzzle game, with the player having to think not only in width and height but also in depth. Don't dismiss the game out of hand! Have a try and you'll see that it has enough of its own character to stand up as a challenging game in its own right and for many people will have more appeal than *Welltris*.



ABOVE: Look at the depth of that well! It's so far down that you can't see the holes properly. Maybe that's why this game is going so badly. INSET: A narrow well – not recommended for claustrophobic players!

GRAPHICS	7
SOUND	4
INTELLECT	6
ADDICTION	8
OVERALL	84%



You've finished Level One and here you test out one of the new weapons which might just show the guy in the tank (Inset) who's boss around here.



MIDNIGHT RESISTANCE

OCEAN £19.95 ■ Joystick

A family is locked away, frozen behind sheets of glass, so the rescue operation must begin – a do-or-die mission is essential.

Midnight Resistance is a scrolling shoot-em-up, much in the mould of that classic old arcade game *Green Beret*. Your route is simply to follow the scrolling landscape, dealing with whatever comes into view by blasting it. Your task is to travel on foot through this strange world of mechanized mayhem, blasting everything in sight and rescuing your enslaved family. Be prepared for anything, what you'll meet next is always unpredictable.

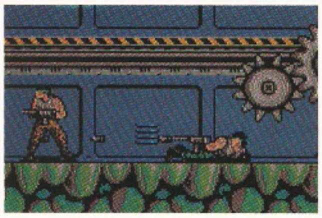
As well as soldiers fighting for the enemy, there are round steel blades that crawl across the screen dipping and diving at your head just waiting to turn you into mincemeat. Then there are the big guys, kitted out with steel tanks and a tough guy image, who take a lot of killing. Tanks and planes are common biggies, but there is the odd monster or two as well and getting rid of them can be very tough. A great number of hits are often needed, but with a more powerful weapon you can wipe them from existence quicker.

After each level there is a special weapon screen where you can buy new weapons. Each one is locked behind a sheet of glass and you have to pay for them with keys collected from dead foes throughout the level.

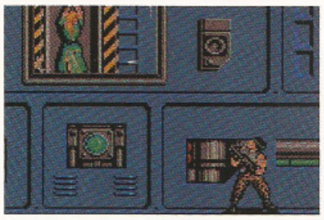
Weapons available include three-way guns, fire beams, barriers and automatic machine guns, besides the normal rifle that remains with you throughout. Losing a life results in the loss of any special weapons you have, as well as any keys collected. However, the keys are scattered around you as you die and are still there to be re-collected, along with any special weapons you had, if you come back to life.

Team up with a mate and you can increase your firepower and chances of survival with the simultaneous two-player option. The other hero can be distinguished by the different colour of armour he wears, but when you reach the special weapon screen you'll have to share what's available.

Mark Hill



Stand up here and you'll soon be suffering from more than just a splitting head-ache!



Concealed behind glass and still wearing her evening dress, your Mother appears on screen.

GRAPHICS AND SOUND

The graphics on *Midnight Resistance* are well drawn and give a pretty variation of backgrounds throughout. The wide range of scenery indoors and out makes first-time exploration fun to start with and the graphics provide an incentive for repeat playing. A rather dull background tune and average sound effects accompany the far more accomplished graphics.

LASTING INTEREST

The sad thing about this shoot-em-up is that the gameplay is dated, a bit of a blast from the past. One problem is the limited options available. When you have the same old route to follow every go, the sections you've mastered become repetitive. It does mean, however, that you can learn your way through and each new discovery adds to the excitement.

The main problem is likely to be the frustration level caused by repeatedly dying at the hands of some of the very difficult guardians encountered.

JUDGEMENT

It's a very good game for its genre, but doesn't bring much new to the field except some swish graphics. A good conversion that will certainly appeal to fans of games like *Green Beret* and *Gryzor*, but will leave those in search of originality and variety out in the cold.

GRAPHICS	7
SOUND	5
INTELLECT	2
ADDICTION	6
OVERALL	69%

SHADOW WARRIORS

OCEAN £19.95 ■ Joystick

This is one of the ever-growing band of scrolling beat-em-ups with a Ninja origin. Your task is to fight through six of the toughest neigbourhoods in America.

Using attacking moves you attempt to defeat the ghoulish Assassins that rule the streets and try to become the greatest Shadow Warrior of them all. Swing kicks and flying neck throws are your only other attacking moves and the ability to live three lives completes your defensive approach.

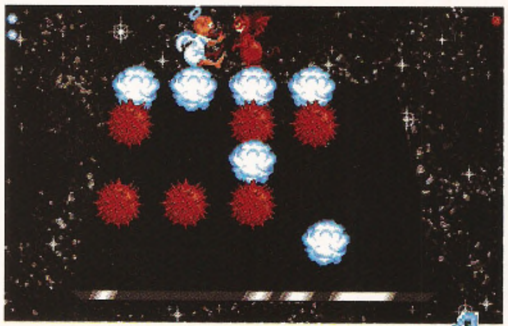
Graphics are colourful and give a realistic effect of a typical suburban neigbourhood, but the sprites behave like a horde of drunken zombies – realistic too, perhaps? A simultaneous two-player option gives the game a light at the end of the tunnel, but otherwise the action is far too similar to many a fighting game that has gone before. Only recommended for hardened beat-em-up addicts. *Mark Hill*



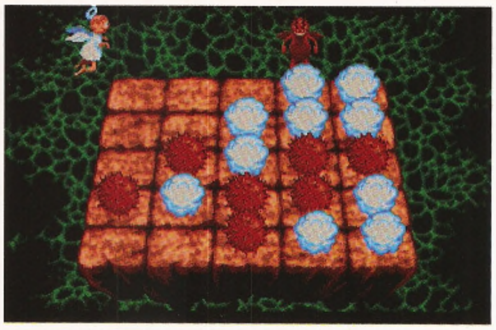
A bit of argy-bargy in the neigbourhood as you send a thug flying.

GRAPHICS 5 / SOUND 3 / INTELLECT 1 / ADDICTION 2 / OVERALL 42%


So You Wanna Be a Hero...
NEW RELEASES!
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Sierra Consumer Hotline: (0734) 310003



Body-checking the angel to line up your move.



The devil tries to block the angel's diagonal line.



ANTAGO

ART OF DREAMS £19.95 ■ Joystick

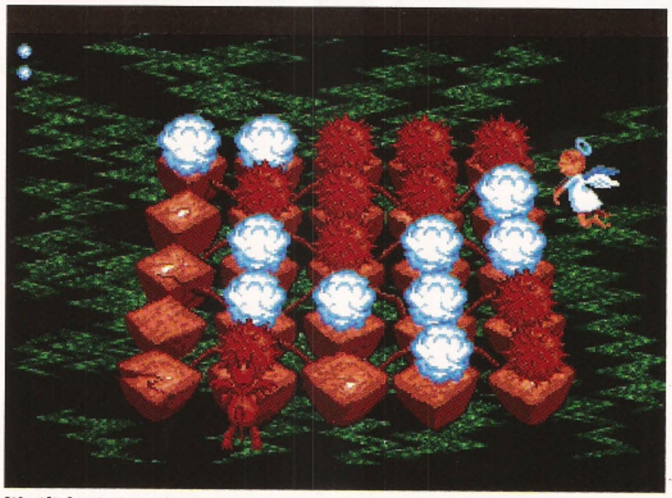
Immortality's a drag. Ask any angel: it's all hanging about on clouds, twanging harps and wearing long dresses. One day, though, during a brief respite in the war between good and evil, the cherubs got together with the devils. Between them they created a game to fend off the monotony and they called it *Antago*.

An *Othello/Checkers* hybrid, *Antago* has few rules but bucketloads of strategy. The angel and devil face up across a board, five squares by five. Each takes it in turn to place pieces on the board with the aim of getting five of their own in a row. The angel uses cute clouds, while the devil plays with huge spiked balls.

The players can only reach the very edge of the gameboard, so they are unable to directly affect the pieces in the centre. However, when a new piece is conjured where one already exists, the new ball or cloud forces the present one a square forward, with a knock-on effect down the line. If there's already five in the row then the last piece is simply pushed off the board into oblivion.

Subtlety and cunning are required as lines are manoeuvred to create a winning row (any row of five will do). When the board clogs up with red and white blobs, the skill of disguising your potential line becomes increasingly important: with just one piece, you try to bump the balls to produce a winning line from nowhere. The one rule is that you can't knock the last piece placed by your opponent into the void. It can be moved, but not destroyed.

Trenton Webb



It's tit-for-tat as the two players keep blocking each other's lines.

GRAPHICS AND SOUND

Antago is cute. The Angel sports a night-shirt and halo, the devil a pot-belly and horns. Floating around the board they body-check each other mercilessly out of the way. They even drop subtle hints about the speed of play, filing their nails, looking bored or reading hymn sheets between slow moves. These caricature sprites are juxtaposed with swirling surreal backgrounds and backed up with an eerily atmospheric theme tune, making _Antago_ an instantly attractive game.

LASTING INTEREST

Playing against the machine, interest can be sustained with a batch of pre-generated boards. These add extra conundrums and complications. The game's real charm, though, lies in one-on-one contests against a friend, when it's a head-to-head, knives-drawn, back-stabbing fight.

JUDGEMENT

Undeniably cute and instantly playable, _Antago_'s destined to be an occasional game rather than a lasting passion. Even its twee characters and wild backgrounds cannot compensate for the lack of long-term solo appeal. In one-on-one mode it's great, but alone even the horde of pre-configured boards can't sustain long-term interest.



GRAPHICS	8
SOUND	5
INTELLECT	7
ADDICTION	6
OVERALL	65%

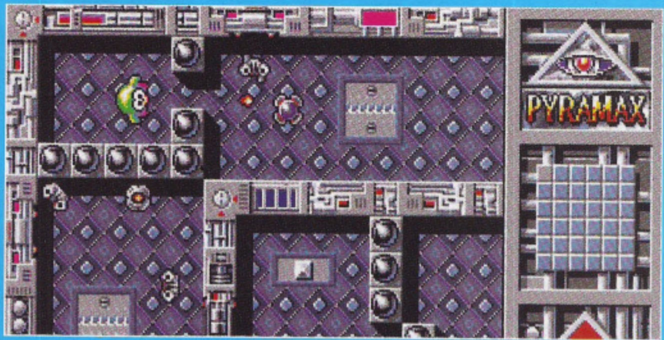
PYRAMAX

ARC £19.99 ■ JOYSTICK

The Thaalians were an ancient race that over the years developed machines and robots to serve them – but when the androids rebelled the Thaalians had no defence against their own creations. The robots constructed a great pyramid of six levels, at the very top of which was the crystal of Thaal which held the knowledge of the entire Thaalian civilisation.

As Max Danger, intrepid intergalactic explorer, you must make your way through all six levels to reach the crystal of Thaal and to learn of its vast intellect. To do this you must explore each room and touch the touchstone which you will find in each – once you have touched every touchstone on the level you will progress to the next.

Along the way you can collect handy objects such as spells which act as smart bombs or extra energy, as well as bonus objects which do naff all except boost up your score.



Max Danger, intrepid explorer and... erm... green frog-like thing.

The graphics are a bit limited and show little detail but the sprites move smoothly. The whole thing slows down noticeably when more than three objects are moving about on screen. Sound is narrowed down to an anoying little title tune, footsteps and explosions. Overall, gameplay is spoilt by the lack of sound during play and the difficulty level is simply too high – reaching the end is too great a task. *Jason Edgell*

GRAPHICS 5 / SOUND 4 / INTELLECT 4 / ADDICTION 5 / OVERALL 52%

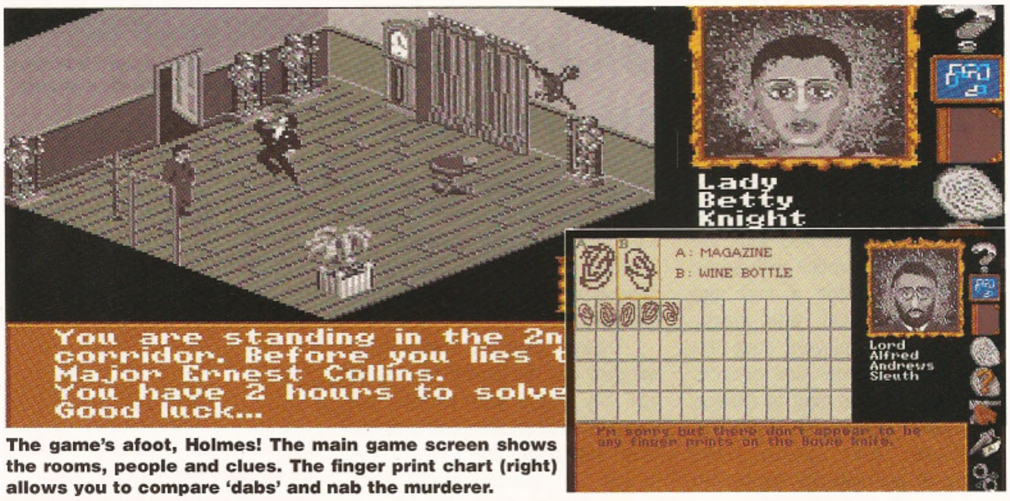




The tabloids announce the crime and its solution with their cusomary restraint and tact.

MURDER

US GOLD £24.99 ■ Mouse



The game's afoot, Holmes! The main game screen shows the rooms, people and clues. The finger print chart (right) allows you to compare 'dabs' and nab the murderer.

Murder's been committed. It will be two hours before Scotland Yard's flat-foots arrive at the old country house, so as Britain's greatest detective you've the chance to catch the criminal and claim the fame.

Murder's the name and crime's your game. The tabloids announce your arrival at the scene and then it's time for some clue sniffing. Using questions, fingerprinting and the faithful old notebook you must find the murder weapon, identify the culprit and book 'em Danno (Murder One).

The isometric 3D mansion's halls and rooms must be searched for clues. Using a mouse either to dictate direction or to act as a magnifying glass for close-up inspection of people or objects, the trench-coated sleuth is off on the trail. For in-depth grilling of suspects, slap the eye-glass over a suspect and hit the 'question' icon. Using a number of variables you can ask suspects about themselves, others, relationships, objects and places. If the right person's asked the right thing it should eventually become apparent who topped who and with what. Of course you can't be expected to remember twenty different versions of the same story, so with a crafty click on the notebook you jot it down.

All entries in the book are cross-referenced as they're made. So if you discover that Mister Bates was arguing with the victim in the hallway, shortly after picking up the bread knife, then the info's stored under clues and people.

The other major source of clues is fingerprints. In time-honoured fashion the sleuth can dust anything he sees lying around for 'dabs'. If the victim was stabbed, getting prints off the four knives is a priority, but other 'unconnected' objects may hold the key to the mystery. Identifying the prints requires use of the comparison chart, where all the fingerprints you take during one game are logged. This often leads to great amounts of chasing people round, waiting for them to put an object down so you can dust it.

Once you've established who did what, it's time to grab hold of exhibit 'A,' click on the cuffs and wait. If you're successful then a banner tabloid headline proclaims you as the greatest living detective since Miss Marple traded in her zimmer. Fail and you're ridiculed, without a clue as to whether you had the right person and the wrong weapon, wrong person and right weapon or if you were just totally and utterly wrong.

Trenton Webb

GRAPHICS AND SOUND

Starting with a scream, *Murder* sounds promising, yet there are few effects. Taps drip and gravel paths grate, neither hindering or helping the game. The black-and-white isometric 3D screens help capture the murder mystery atmosphere beautifully.

The objects are easily visible, but all the suspects look identical, repeats of the same stock types – butlers, maids, flapper dress or dinner-jacket. The side-screen graphics make up for this with identikit faces, enlarged finger prints, and the 'hand-written' notebook.

LASTING INTEREST

With a different murder to solve every single day for over 30 years and four skill levels – amateur to supersleuth – there's plenty to keep you busy. The harder levels simply mean bigger rooms, more suspects and increasingly complex plots. Finding the enthusiasm to solve these crimes may be a problem, though. It's fun announcing 'who-dunnit' but detection requires dogged questioning and isn't the glossy glamour job that messers Magnum and Lansbury make out on TV. Saying the same thing to thirty different suspects gets tiring. The determined will love it, but for others the novelty of getting the butler banged up for 25 years will wear off after a few murders (he wrote).

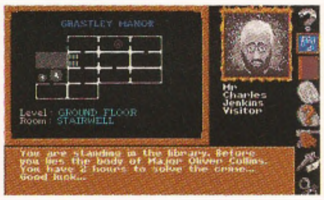
JUDGEMENT

A puzzle game with a real difference, *Murder* blends the genre of the adventure, where precise questions elicit the best answers, and arcade-style games where speed is important. It's not just the two-hour time limit, but getting to objects before the prints are wiped by that swine with the hanky.

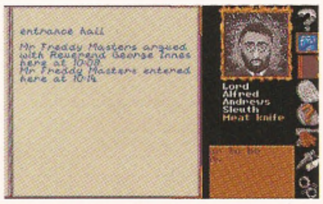
Murder needs intuition and a nose for a lie if you're to solve the crime and claim the glory. When that fails you can fall back on methodical police work, quizzing everyone, dusting everything and guessing. *Murder* taxes the mind and patience, but if you want to commit them rather than solve them an action game might be a better idea.



What was Margo King doing with the ashtray in the bedroom?

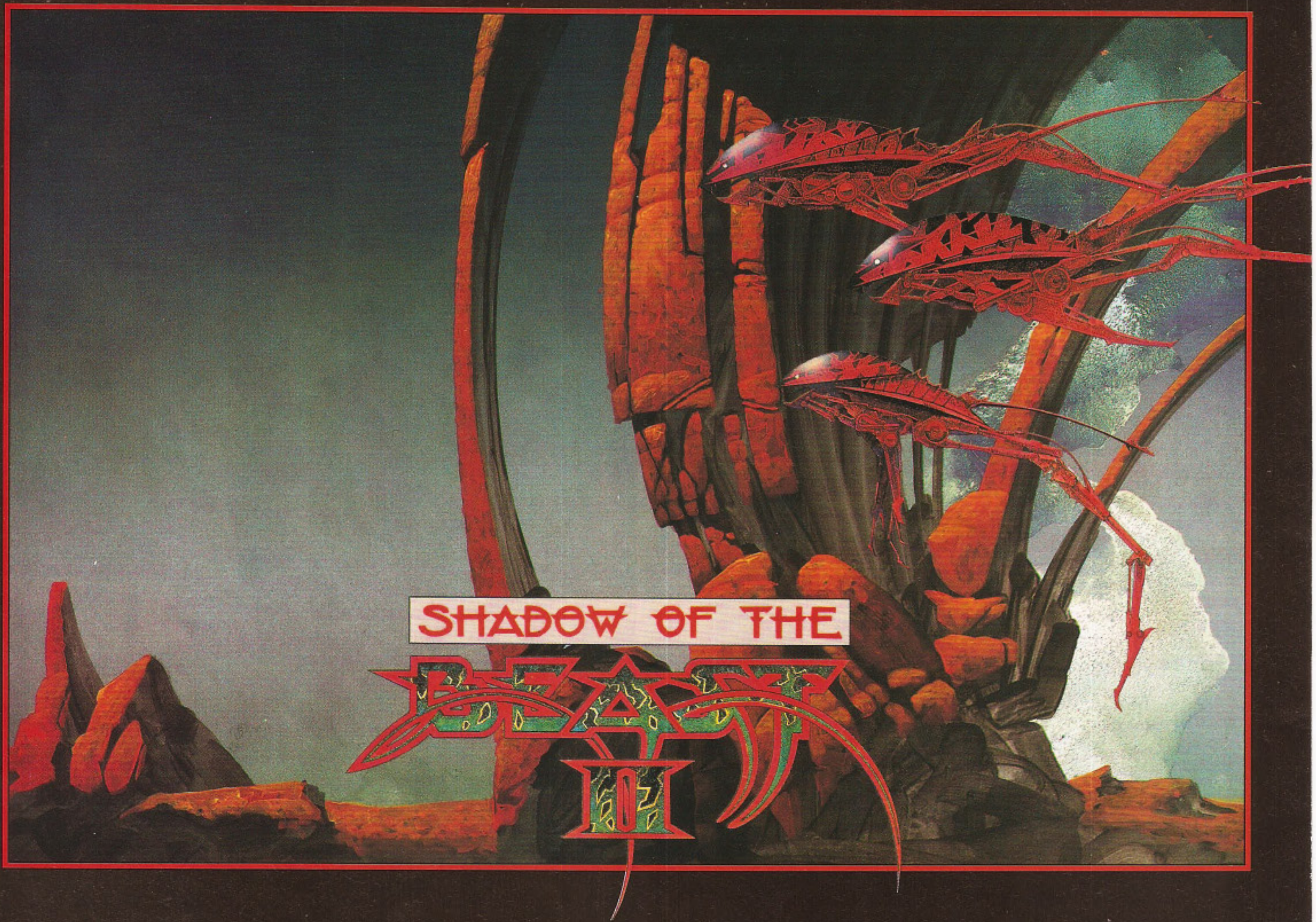


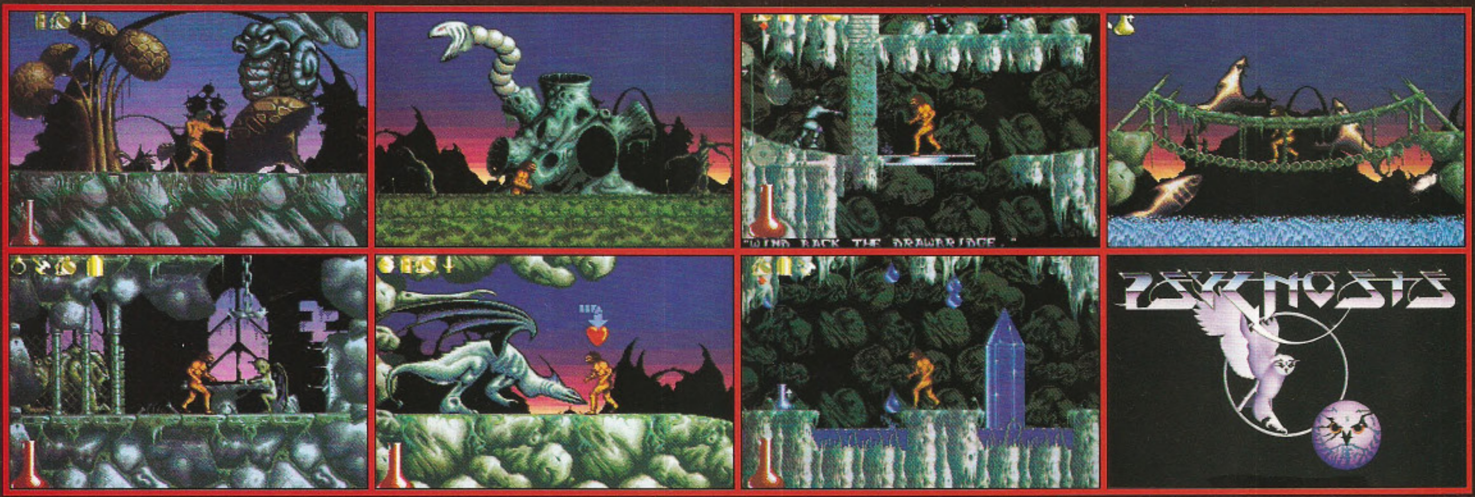
Better check the floorplan to save to time and shoe-leather.



Look in your notebook to review the clues you've collected so far.

GRAPHICS	7
SOUND	2
INTELLECT	8
ADDICTION	6
OVERALL	81%





SUPERB
BEAST II
'T' SHIRT ENCLOSED

An Original, Unique Roger Dean Design

THE BEAST IS BACK!

THE SEQUEL TO THE TOP SELLING AMIGA GAME OF 1989

THE CONFLICT CONTINUES . . .

Your deadly struggle for freedom against the dark forces of the Beast Lord is now but a painful memory. You try to forget the anguish of the past by concentrating on your prize for success in the bloody battle: the return of your humanoid body.

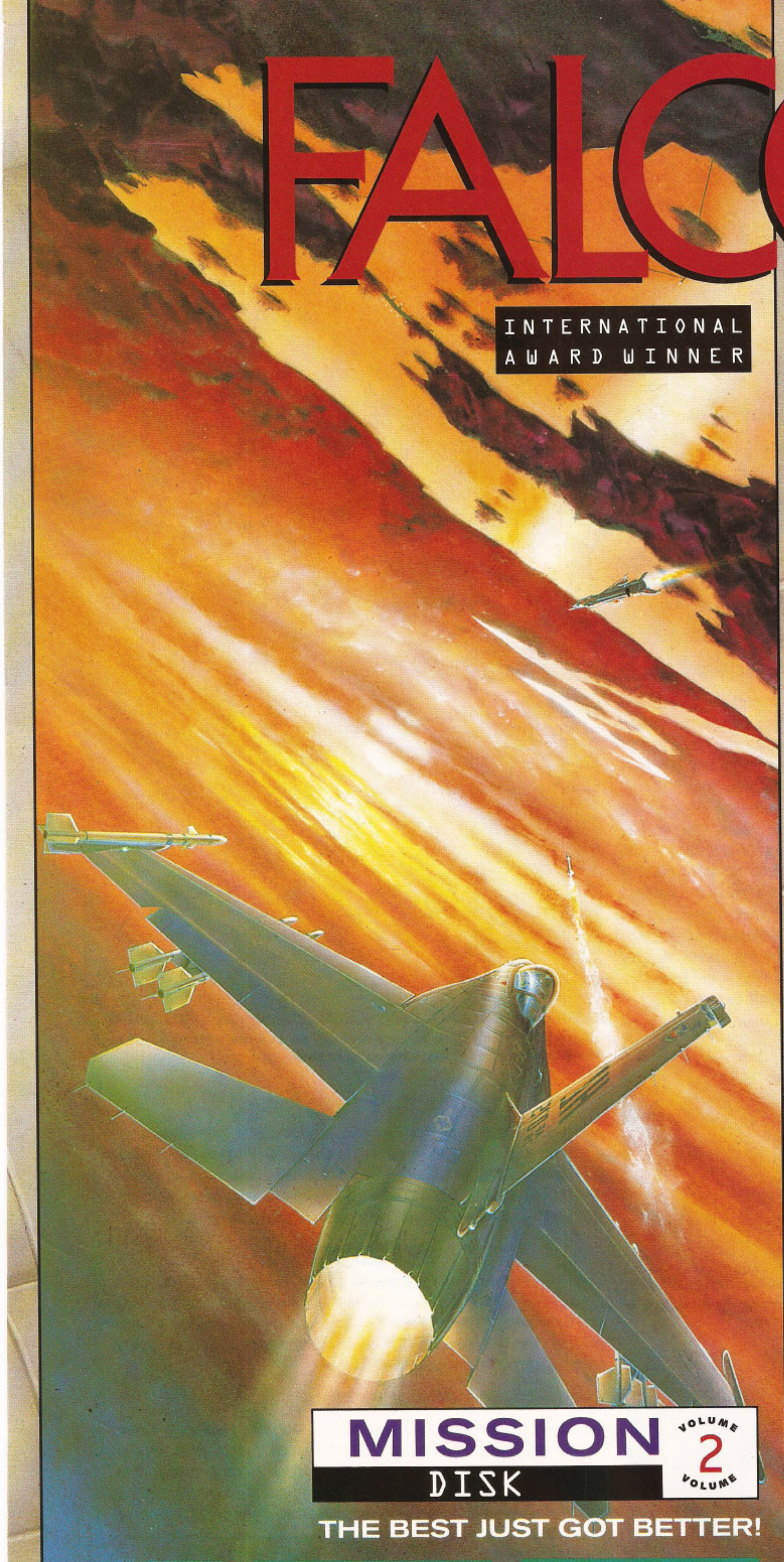
But as you slowly adjust to your newly-won physique, the pain you thought gone is about to return . . . The Beast Mage has kidnapped your sister! She must be rescued before she falls foul of his dark arts. You journey to a hostile alien world to face the malevolent hosts of the Beast Mage and interact with more friendly characters to learn of your unfamiliar surroundings.

You must fight your way through many enemy-infested levels collecting and using weapons and objects to aid your crusade towards confict with the Beast Mage . . . before he makes your sister his own!

Screen Shots from the Amiga version

SEEING IS BELIEVING

FALCON™



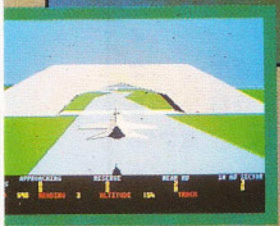
THE BEST JUST GOT BETTER! Mission Disk 2 takes the best simulation of daylight dogfighting into the world of radar intercepts and beyond visual range weapons.

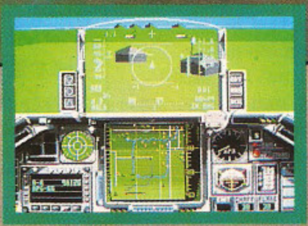
Friendly ground forces need your help. Not only do you have to stop the enemy tank onslaught, you also have to protect your own forces and vital installations from enemy raids.

Messages from ground control will allow you to assess the overall tactical situation. Will you have to scrub your strike mission and go after the enemy bombers? Keep an eye out for the possible fighter escort. You may have to cope with two incoming raids simultaneously and up to five enemy aircraft in the air at once!

NEW FEATURES INCLUDE:

- SUPERLATIVE "FALCON" GAMEPLAY WITH ENHANCED CHOICE OF WEAPONS.
- INTERCEPT MISSIONS USING GROUND CONTROL AND RADAR.
- BEYOND VISUAL RANGE AND ANTI-RADAR MISSILES.
- FULLY DYNAMIC BATTLEFIELD WITH ENEMY ARTIFICIAL INTELLIGENCE.
- UP TO FIVE ENEMY AIRCRAFT IN TWO INDEPENDENT ATTACKS AT ONCE.

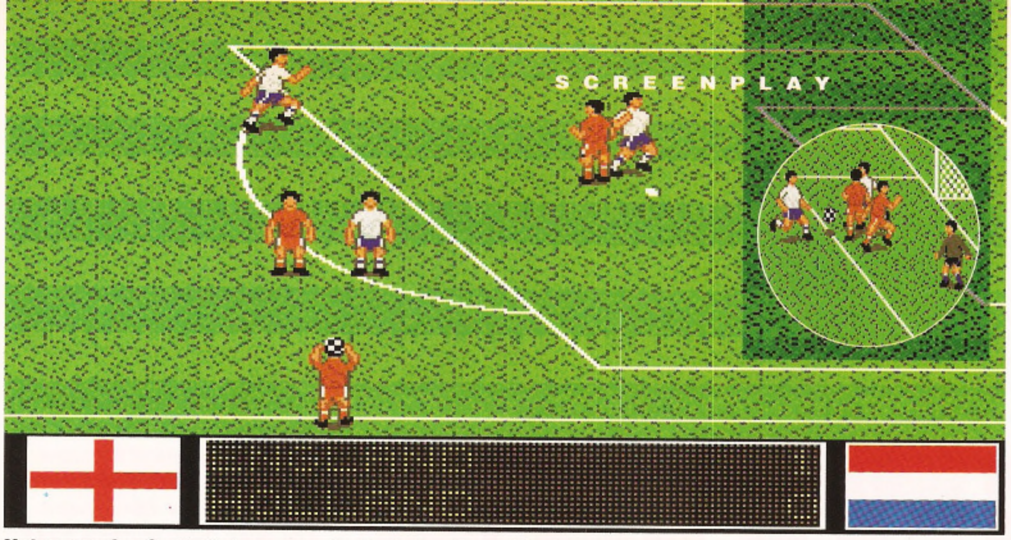






MIRROR Soft

Spectrum HoloByte™



Not so much a football game as a football sim. Everything's seen from the stands, as the realistic players head, tackle and slide for glory. Even the set piece moves are under your guidance, so express yourself.

EMLYN HUGHES INTERNATIONAL SOCCER

AUDIOGENIC £24.95 ■ Joystick/Mouse

This soccer game has already spent a few weeks bobbing about above the murky depths of the Amiga charts which, one presumes, has less to do with the somewhat dubious licence than with the quality of the game itself.

It's simple enough. The idea is to pick the best players from the squad, give them the benefit of your tactical prowess and, with adept joystick waggling, stuff some opposition. While it is pitched as a mish-mash of tactics and action the most appealing aspects of the game will tax the reflexes and subtlety of movement rather than any heavy duty teasing of grey matter.

There are more options than you'll ever find useful – you decide how long matches are, whether to play auto-goalie (a good idea at first) and other such domesticities. Let's say, just for the hell of it, that you fancy running the England show. You're presented with the opportunity to practice with some friendlies, or enter a cup and league competition with classy opposition. The players have the kind of bland names one expects but it doesn't take long to change the likes of Green and Jones into Gascoigne and Lineker. The names of international opposition are inane enough (Cousteau and Bleriot play for France) to merit being left alone.

Each player has various attributes indicated on an extremely simple table and you can manipulate these to suit any requirements. Once all this fuss is over you can get down to some real fun. Everyone knows that a good game is simple to play and difficult to master. *Emlyn Hughes* starts off with the right idea. It doesn't take long to learn how to win the ball and distribute it. Scoring, and therefore beating the opposition, is a wholly different ball game.

Tricky joystick manipulation will give you the power to put the ball any place you please, but these skills need time and practice to be developed. The way to win is to get the measure of the pitch and work from there. The players will do the rest, at your command.

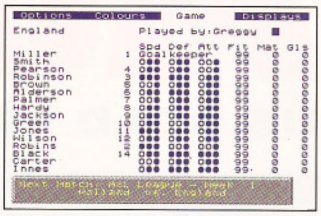
Unlike so many soccer games the offside rule has been included and it seems impossible to find players in an offending position.

No doubt everyone who brings this home will have a good fiddle with the match options. But the game is essentially a knock about, and a jolly good one at that.

Colin Campbell

GRAPHICS AND SOUND

You can sense that this game has graduated from the 8-bits – the visuals are 'functional'. Players, while a tad stiff, do not suffer chronic arthritis. The crowd sound is cheerful and wonderful so despite being merely a random bag of muffled crowd cheers, beeping horns and unintelligible chants, it adds to the atmosphere and should be turned up. But kill the music at the earliest opportunity.



Pick that squad, then alter their abilities to give you max power.

LASTING INTEREST

Definitely one of the more durable footie games mainly because of its wide range of shots and passes. Victory over all the computer opponents will take time and there are enough surprises to make it a good wheeze for two players.

JUDGEMENT

It lacks speed, tactical difficulties are virtually non-existent and shouldn't be taken too seriously, but nevertheless it's a lot more fun than a Saturday afternoon at Wycombe Wanderers.

GRAPHICS	6
SOUND	6
INTELLECT	3
ADDICTION	8
OVERALL	78%

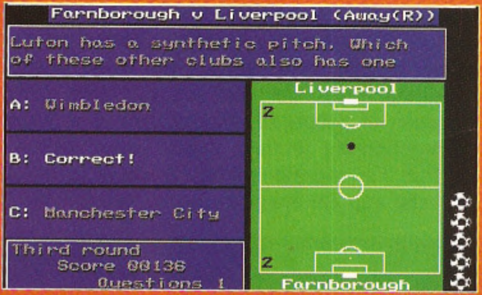
EVERTON FC INTELLIGENSIA

AMFAS £19.95 ■ Joystick/Mouse

A straightforward soccer quiz with a format based loosely on the FA Cup. Choose a team, find out who the opposition is and try to win by correctly answering more questions than you goof on. If you are drawn at home against the likes of Tranmere Rovers then there are only a few questions to answer. However, a trip to Old Trafford in the quarter finals is for real football trivia nuts.

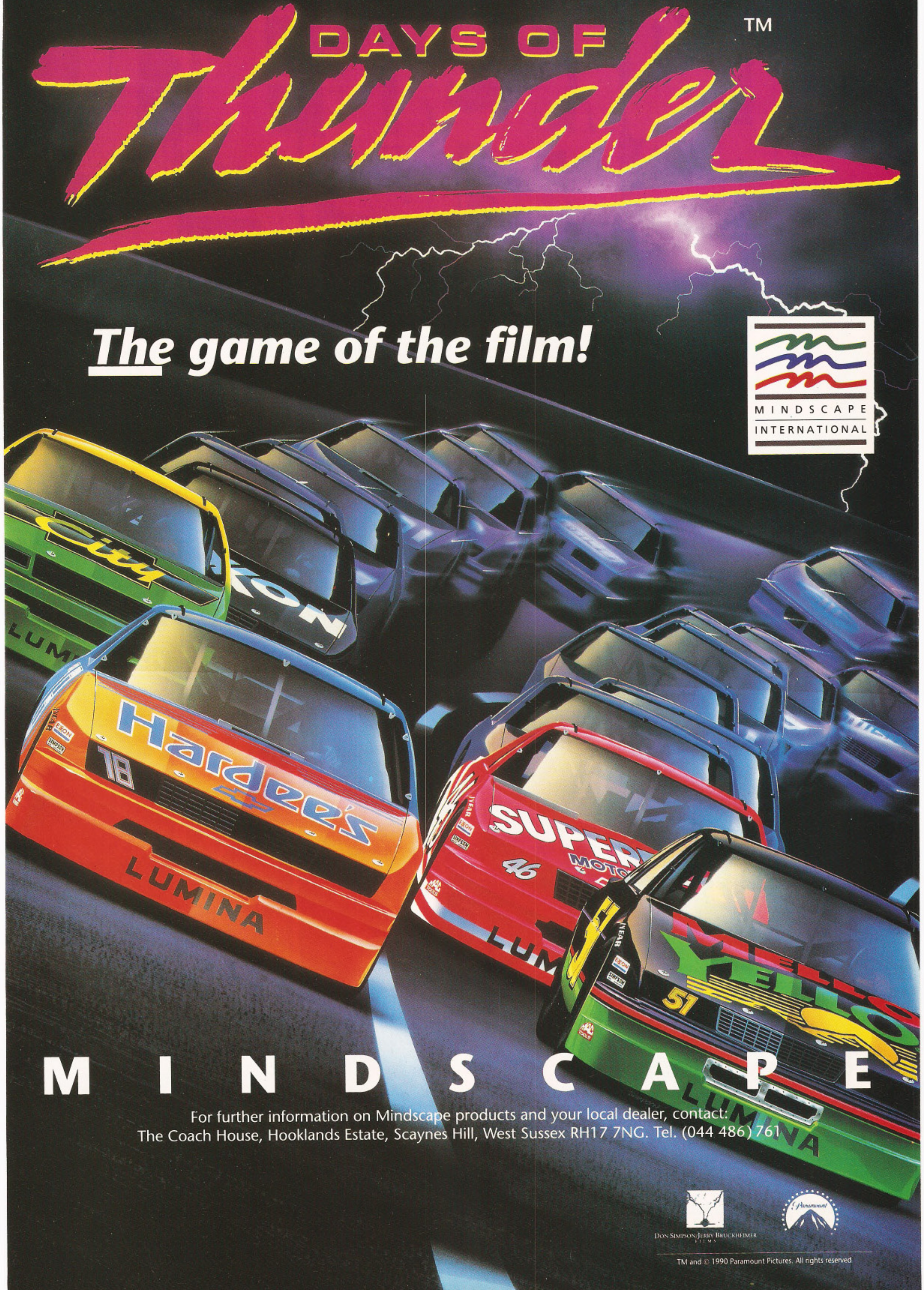
The questions are multiple choice with three possible answers. Most are straightforward text affairs along the lines of "What was the name of the dog who found the World Cup when it went missing?" There are a few picture questions, usually "Who is this?", the answer mostly being Carlos Valderama or Andy Roxburgh – try not to mix them up.

The designers have dispensed with pretty images so in the visuals department, this is a pretty dismal offering. It's just a quiz game and doesn't pretend to be anything else. Unfortunately, despite the obvious attraction of obscure soccer facts, there is little to whet the appetite. Sadly so many of the teasers are nothing of the sort and if you don't know who won the Littlewoods Cup in 1988 a process of elimination will put you in good stead. There's also chronic repetition of questions. There are nearly 1,700 – but who wants to answer 50 of them 300 times before we see them all? *Colin Campbell*



Get it right and the ball moves into scoring range.

GRAPHICS 2 / SOUND 3 / INTELLECT 5 / ADDICTION 5 / OVERALL 53%


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The game of the film!
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LUMINA
SUPER
MOTOR
46
LUMINA
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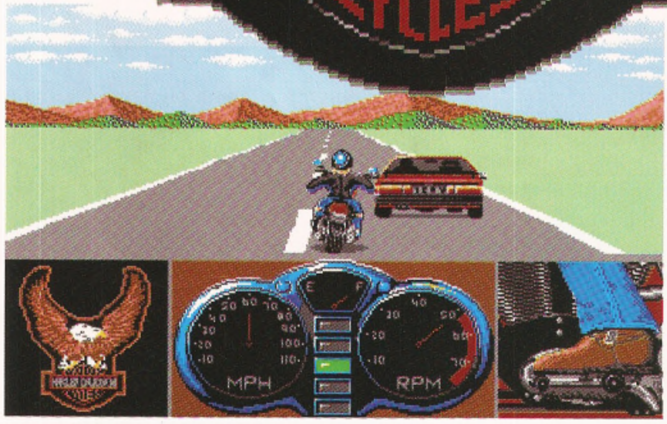
HARLEY DAVIDSON

MINDSCAPE £24.99 ■ Mouse

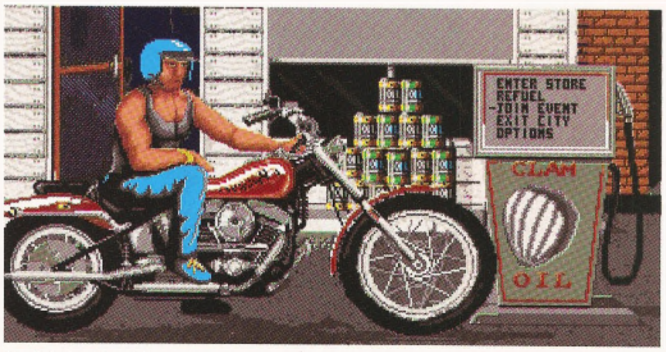
Anyone involved in the world of Harley-Davidson motorcycles will undoubtedly be familiar with the biker rally in Sturgis, South Dakota. Like the Beetle owners' 'Bug Jam', the Sturgis rally is the place to be once a year for riders of these much-revered two-wheeled machines.

In Mindscape's licence, you play a rider based in Maine who only has ten days to reach Sturgis. Belting down the highway at full pelt is not the way to do it, though – this way you will either come a cropper on a pothole or two and end up in hospital, or get picked up by the police for speeding! A couple of bad things that it is best to make sure you avoid.

There are regular stops on the way that will allow you to buy some extra kit for your bike, some clothes or even have a tattoo. If you feel up to it, you can take part in a special event. Take care on the way, be a helpful soul and pick up hitch-hikers if you want, but get to Sturgis on time – the festivities are waiting! ***Maff Evans***



There isn't much time for sightseeing, so pull past those annoyingly slow drivers and hit the open road ahead.



Pull into the bike shop when you hit a town to stock up on fuel and anything else that you may need to keep runnin' free.



Burning off down the strip in a most impressive fashion.



Picking up hitchers is a good way of making new friends.



It's nice to meet a friendly face in the stop-offs of a long journey.

GRAPHICS AND SOUND

The presentation of *Harley-Davidson* is pretty nifty, with some nice digitised pics and location shots, but the actual road sections are not that exciting. The perspective 3D road effect is fair enough, but the sprites are a little limited and are only adequately animated. The sound, too, is a shade weak and could do with perking up.

LASTING INTEREST

Even though there is a long way to go and the events are fun, the actual road-driving that takes up most of the game is pretty repetitive and uninspiring. The feel of a trek on the open road astride a powerful machine doesn't quite reach its full potential and could bore casual bike fans after only a couple of days.

JUDGEMENT

The chance to ride a classic bike across the United States is a romantic and appealing thought, isn't it? Unfortunately, despite its slick presentation and humour (using biker slang at every opportunity), *The Road to Sturgis* hardly captures the feel at all. What we have is a basic 3D driving game that has a few extra elements thrown in. The special events are worth playing for, and maybe just to dream of doing the run to Sturgis for real will attract some gamers, but ultimately, most Harley fans will find themselves unfulfilled, end up ignoring the conversion and stick to the open road with the real thing.

GRAPHICS	7
SOUND	4
INTELLECT	3
ADDICTION	5
OVERALL	67%

COMBO RACER

GREMLIN £19.99 ■ Joystick/Keyboard

There's been a garage full of racing sims over the past year. So one has to be either very special or different to merit a second look. *Combo Racer*'s claim to fame is simultaneous two player action, with rider and passenger working together for speed.

Combo Racer has all the elements that a strong racing title requires. It offers a variety of courses for seasons of high speed action, and gives you the chance to try something outrageously daft at no personal risk. It even comes with a course designer to help out in the lasting interest stakes.

Controlled by joystick in the traditional manner (up to accelerate, back to brake etc) *Combo Racer* is easy to get to grips with. Precise changes of direction, speed and gears are required to even qualify, let alone race. The opposition's good enough to leave crash victims for dead and even the very best must struggle to win, while the undulating tracks, complete with tunnels, are varied enough to test a riders ability.

What makes *Combo Racer* different is the two player mode, which allows racing in pairs. In a one man game the computer takes care of the passenger's fiddly bits – shifting their weight to give the bike greater traction. In two player mode one person takes the handle bars, the other dons a helmet and controls the passenger. He plays a vital role because if he's not perfectly positioned a terminal flip out's all too probable. Crashing costs time and loss of face. In *Combo Racer* it also affects the bike's performance. Each collision costs 3% engine damage, and after a few shunts you soon lose the title of Racer and start looking at a funky Combo Moped. ***Trenton Webb***



The course designer allows you to create your own racing nightmare (top left). When racing though it's staying on the road that is important: one slip of line, corner too fast, or have a badly positioned passenger and a crash (top right) is the only possible result.

GRAPHICS AND SOUND

Speed's the soul of any racing sim and *Combo Racer* moves with eye-numbing rapidity. Corners loom with frightening suddenness, a factor complicated by the dips and rises on each course. The bike responds well, hanging on line if controlled properly, but dishing out big penalties in the form of crashes to the careless. Soundwise the game lacks convincing effects, with a simple engine sound and a tolerable intro theme.

LASTING INTEREST

The big plus points should be the track designer and the two player mode. The course creator breathes life into it, but only for people who find racing itself inexhaustibly entertaining. The two player option is disappointing, with the passenger's involvement limited to corners. Even there it's simply a matter of pushing the stick to one side – not scintillating gameplay.

JUDGEMENT

A first-class racing sim, but *Combo Racer* lacks the magical spark of a classic. The course designer will only interest die-hard bikers, while two-player games are too limited to be of consequence. *Combo Racer* is a commendable entry in a packed field, but lacks the poke to take pole position.

GRAPHICS	7
SOUND	2
INTELLECT	2
ADDICTION	6
OVERALL	69%

WILDLIFE

MD PRODUCTION £TBA ■ Mouse

The word Green now has two meanings: naivety or environmental concern. A fact that has to borne in mind when playing *Wildlife*. In this photo safari, your job's to take interesting pics of animals and shoot a few poachers. After selecting one of four continents and being told which three animals to snap, you're whisked off to the country in question. Use the icons to grab your camera components, then use two lenses and a rifle to complete the assignment. As the landscape scrolls horizontally across from right to left poachers and animals pop up. You select either the camera or rifle, place the cursor over the target and start shooting. Occasionally there's medi-kits, to heal damage the poachers' bullets have done to you, and more film to grab.

Wildlife has a whole flock of albatrosses hanging about its neck. The game style itself is unoriginal, following in the same tracks as *Safari Gubs* (sorry, *Guns*) but lacking the facility to examine the pics you've taken, a feature of *SG*. It's also too easy and lacks involved gameplay, all you need is a quick mouse hand and it's game over. Finally and most importantly the game's very pretty, but there's no addictive hook. Essentially *Op Wolf* without gameplay or graphics, so you'd have to be very green indeed to find *Wildlife* appealing.
Trenton Webb



There's only one way to deal with poachers – shoot 'em.

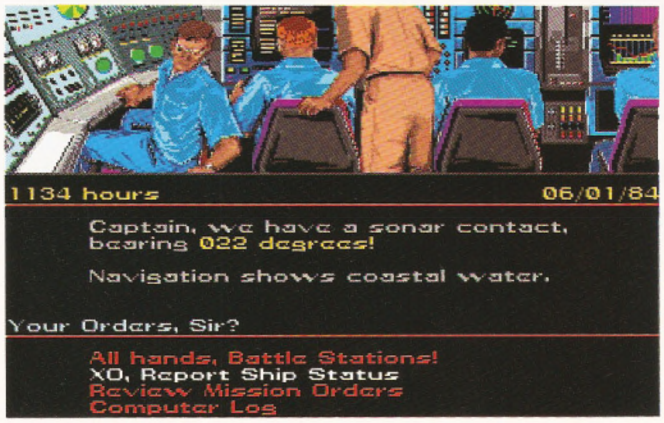
GRAPHICS 6 / SOUND 3 / INTELLECT 1 / ADDICTION 0 / OVERALL 31%



THE NIGHT BREED
THE ACTION GAME
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TAKE CONTROL OF BOONE AS HE MAKES HIS WAY THROUGH THE DEPTHS AND CAVERNS OF NECROPOLIS TO
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THE UNDERGROUND CITY OF MIDIAN WHERE DWELL THE NIGHTBREED. SUPERNATURAL CREATURES WHO HAVE SHIELDED THEMSELVES FROM
THE INHUMANITIES OF MAN.
NOT ONLY MUST YOU CONFRONT AND DEFEAT THESE CREATURES BUT
NIGHTMARE
YOU MUST PIT YOURSELF AGAINST THE MURDEROUS REDNECK GANG FROM THE NEARBY ABOVE-GROUND CITY AND ULTIMATELY DEFEAT THE INSANE SERIAL KILLER KNOWN AS "THE MASK".
BEGUN!
THIS ALL-ACTION ARCADE ADVENTURE ALLOW YOU TO SHOOT, PUNCH AND JUMP AS YOU EXPLORE THE TERRIFYING UNDERGROUND ENVIRONMENT OF THE NIGHTBREED.
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ocean
THEY'RE COMING SOON!!!



RISING



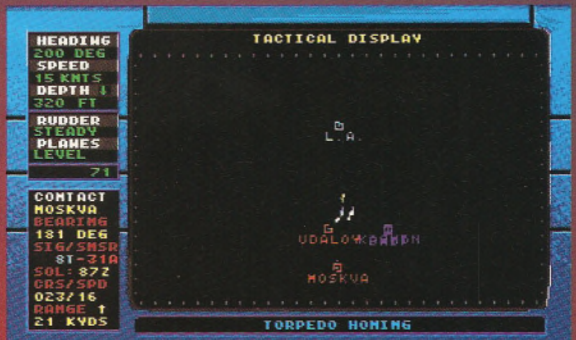
The crew report a sonar contact. Track it, identify it and kill it. Use any of the weapons available, just as long as it works.

massive potential in the staying-power stakes. The lack of stunning graphics will inhibit the short-term player who wants to see large vessels flying through undersea trenches, but not the long-term strategist or war techie. They'll relish the test of continual battle with a diminishing supply of weapons, attacking more dangerous targets with an increasingly damaged boat. not graphic greatness. *RSR* is complex enough to challenge, yet structured to allow the player greater freedom as skill develops. Get too cocky, by jumping in at the deep end on ultimate difficulty level, and your next port of call is Locker 3F, Jones D. Develop your sub skills, though, and you could blast the pride of the Russian navy into scrap, unseen and safe.

JUDGEMENT

In *RSR* valour is banished to the brig: cold-headed actions and cool nerves see you through. It brings the complexities of modern sub war to the small screen with polish and finesse, if

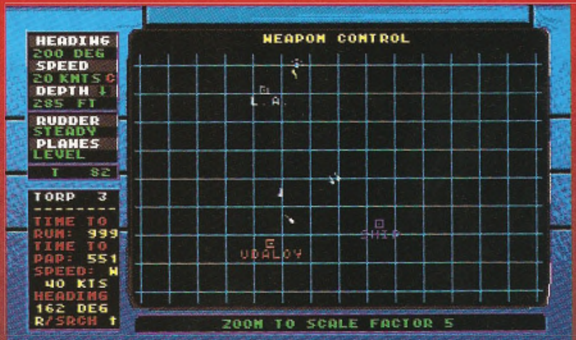
GRAPHICS	4
SOUND	1
INTELLECT	10
ADDICTION	8
OVERALL	89%



The main playing screen is the tactical display. From here you must guide the sub to naval victory or at least survival.



The sea is not always cruel. Using the thermal properties of the ocean it can help disguise your presence.



Controlling your torpedoes on wire, they can sneak up on enemy shipping undetected giving you a chance to escape.



As your torp heads off after a ship using its own sonar, commanders must dodge the incoming enemy fire.



A Russian ship takes a direct hit, but will it sink or swim?

World War III kicks off and the Red Storm's coming this way.

RED STORM

MICROPROSE £24.99 ■ MOUSE AND KEYBOARD

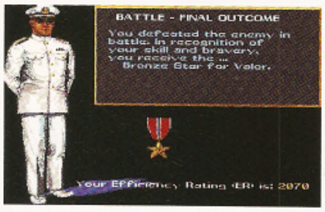
As the Iron Curtain finally comes down on the Cold War, out from the deeps of mid-Eighties Reagenesque jingoism sails *Red Storm Rising*. Based on the techno-thriller by Tom Clancy and Larry Bond, this simulation pits the best of the Russian and US navies against each other in a fight to the finish.

In a game based over four different time zones, commanders can fight battles beneath the sea any time from 1984 to a factitious future where new developments in weapons technology make death-dealing easy. As an American nuclear submarine commander, your job is to sink Ruskie freighters, carriers, destroyers and subs who, not surprisingly, want to do the same to you.

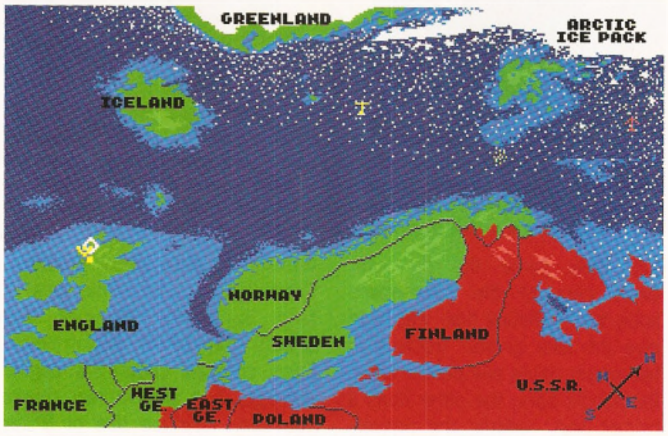
Commanders have a selection of screens to watch as they prey beneath the seas, with cursory shots of sinking ships thrown in for good measure. The skill comes not only from being in the right place to strike, but also from accessing the correct charts and weapons to be effective. The main game's viewed on a tactical map and so subs and ships are only seen as blips on a radar screen.

There's masses of other information a budding Cap'n Nemo must take into account while sailing. Many things make the art of detecting enemy shipping without being detected yourself difficult. Thermal ducts in the water can mask or distort sonar, while certain bits of nautical kit function better at different depths and speeds. Acoustic signatures can be compared to identify a ship class, while the detection levels can be watched, letting you know just how sly you've been.

These toys for the boys would be incomplete without weaponry. It's here that *RSR* metamorphosises from a diverting undersea drive into a true game. Torpedoes have manifold abilities, and can be fired undetectably and unjammably on wire, or can hunt ships on their own with sonar in preset left or right search patterns.



Mission complete, and it's time for medals and back-slapping.



The war map, hunting ground for nuclear submarines of each and every persuasion. Will you be the hunter or the prey, though?

Missiles can be launched at shallower depths, but make you rather obvious. You need to know which defence systems which ships pack, because it's stupid to give away the element of surprise with a weapon that will not sink the opposition. Once they realise you're about it's kill or be killed.

The action is largely key controlled, so the MicroProse standard 'punch out chart' is essential. As the hunt takes shape decisions have to be instantaneous and correct. It's the thrill of the chase, the sudden strike from the deep followed by a charge for the welcoming anonymity of the ocean. In the middle of a battle the quick reference chart can save your life, when a reload's needed and you can't remember the key stroke sequence. This speed of action contrasts with the authentic, but terrifying, slowness of the 7,000-ton beast you control.

Simultaneous reading and playing is never a totally enjoyable experience, but it's vital if you're to weather the storm. The list of variables is truly immense, but there are a few manouevres that must be learnt – skills which the practice options are designed to build. Once armed with experience it's time to start out on single raids and eventually go for the big one, the Red Storm campaign – the Russian hordes en masse.

Trenton Webb

GRAPHICS AND SOUND

***RSR* is an odd simulation, because there's no 'cockpit view' – only maps, charts and the virtually useless periscope. This lack of the 'being there' sensation doesn't detract from the excitement. When the torps start scraping the paint from your ship, palms perspire and tempers fray. Zooming in and out of the tactical map, commanders must make the right call at the right moment. Lives – your crew's and your nation's – depend on success.**

As with any game where there's a 'run silent' option, the sounds of *RSR* are no great shakes. The prop chugs away in the background, but little else. Even when a direct hit's scored and you watch mighty warships sink beneath the waves, there's no fury from graphics or sound. Explicit violence is not the reason you persevere with *RSR*.

LASTING INTEREST

Controlling a nuclear sub takes skill and practice. Add this to the challenge of a full-blown war, the outcome of which your actions actually affect (the game doesn't slavishly follow the book – the scenario starts with the same premise but changes as you sink more shipping) and *RSR* has

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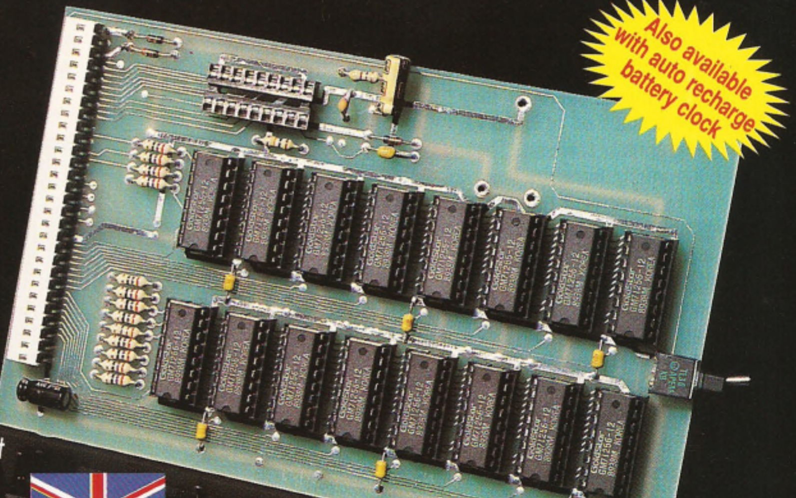
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The quest begins with a none-too-complimentary analysis of your quarry. At the police station you must gather all available information: other detectives may know something vital that could blow the case open. You'll also need to gather a certain amount of hardware, such as your gun and 'cuffs.

POLICE QUEST 2

SIERRA ON-LINE / ACTIVISION £34.95 ■ Keyboard /Joystick / Mouse

Police Quest 2 revolves around being a police officer at work: detective Sonny Bonds, on the homicide squad in the fictional American town of Lytton. No choosing skills for a personalised character – Bonds likes his job and he isn't going to change.

Arriving at the police station one morning, you receive a note about a retrial for Jessie Bains. Bains is the "Death Angel", a murderer with whom Bonds has crossed swords before – what do you think *Police Quest* was about? A few minutes later, urgent news is flashed to you. Bains has escaped and he has a hostage – what now?

What you don't do is leap into a patrol car and drive to the crime scene. Such positive action lands you in trouble. This is a "true to life tale of high police adventure", as the box proudly proclaims, written by an American ex-policeman called Jim Walls!

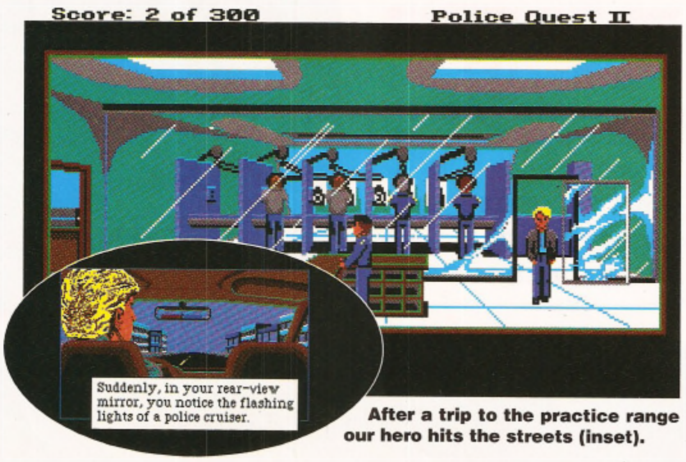
First of all you have to get the paperwork sorted out. Don't worry about that hostage – he's been dead for hours. Believe it or not, the entire police station has the same attitude towards the public good as the very responsible guy who designed Chernobyl.

Asking your captain for help doesn't do a lot of good either. He's exactly the stereotype you see on every American cop show: angry, busy and short on friendly words. Well, not exactly all that busy. He gets through an awful lot of ice lollies and telephone calls and then he turns round and tells you to get on with the job.

This is how a real police officer behaves? The USA does have a very high crime rate, especially murder, but Lytton's law enforcement community just doesn't care. If this is a "true to life tale of high police adventure" I'll take something like *South American Death Squad Simulator* any time – I bet they'd show more concern and compassion for their fellow man.

I'd love to know what to do next on the administrative side but I haven't a clue. You just don't find that sort of thing out from Dirty Harry films. How do you get further? Well, you can spend hours just trying to get ten minutes into the game. Playing *Police Squad 2* can be as predictable as the forms you get to fill before you have the chance to get the cuffs out.

Pat McDonald



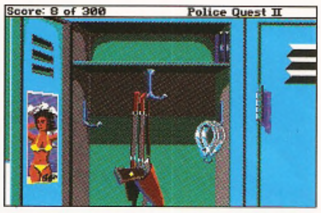
After a trip to the practice range our hero hits the streets (inset).

GRAPHICS AND SOUND

It's a pretty game and no mistake – better looking than *Hero's Quest*. When you adjust the sights on your gun you couldn't ask for a clearer picture of what's going on. Driving around Lytton is a bit tedious as it all looks the same. The speed at which the graphics move puts me in mind of a Citroen 2CV – it gets there but it takes time. Audiowise there isn't a lot. I was promised a 30 minute original stereo theme tune... somewhere.

LASTING INTEREST

This game will have you running around the ceiling in frustration. It's a three-disk game and there's whole a lot of accessing going on. This sort of one-solution puzzle can become highly irritating and, as such, is not recommended for the beginner. You can't so much cut your teeth on this game as blunt your chainsaw blade a bit. It's very, very difficult indeed.



A policeman's locker's not a happy one (happy one), but the decoration helps lift the mood.

JUDGEMENT

Police Quest 2 can make you livid. After spending a good few hours getting totally fed up it's all too possible to want to blow away your captain in frustration. This costs your badge and leaves you still far from solving the Jessie Bain's Case.

If you think you could be a real American police officer, then go for it. The game is good EXCEPT that it requires an immense effort to play. When I play a computer game I expect progress not blood, sweat and tears. Some will find emulating the job of a modern American 'tec enthralling, but most will find it far too realistic – with its heavy procedural bias – reminding them of a hard day at the office. Not the ideal way to relax after after a hard day at the office.

GRAPHICS	7
SOUND	4
INTELLECT	8
ADDICTION	3
OVERALL	69%



Alien Encounter. This mission has three objectives, but since you teleport into the middle of a bug-eyed aliens' convention it means staying alive is the most pressing matter on your mind.

BREACH 2

IMPRESSIONS £24.99 ■ Mouse/Keyboard

If you've ever fancied getting your hands on a phased plasma rifle with a forty-watt range and bagging yourself a bug from Planet X, now's your chance, as Impressions take us once more to the Breach, dear friends. Of course, *Breach 2* is the sequel to Omnitrend's classic original.

A futuristic combat/role-playing game, *Breach 2* gives you control of a bunch of star-warriors struggling for peace, justice and freedom. Each individual squaddie has a predetermined supply of arms, ammunition and medical supplies, which have to be employed within a team strategy to complete a mission. It's either a search-and-destroy sortie where everything's fair game, or military intelligence (surely a contradiction in terms?) tasks where information or prisoners must be liberated.

Seen from an overview map, the troopers stand on or in the various geographical features. These affect everything from the amount of cover to movement rates. Even the fighting's subservient to the map, working on the principle that it's only possible to shoot what you can actually see. And if a bad guy's hiding around the corner you won't know he's there till you step round and take a peek.

Moving's simply a case of drawing a line between the trooper's present position and his destination. Shooting's a matter of facing the right way and clicking on the man, creature or thing you want to blast. If you're lucky, a hit's calculated and they die in an acrid cloud of laser-induced smoke.

Each soldier in your squad has a set of statistics. Health points and vitality are the most crucial, determining movement and how long the man will live. Both can be recovered with rest or medipaks.

Different stats come into play when troopers try to 'crack' enemy computers or during other, more avant garde, activities. Like all actions in *Breach 2*, success or failure is governed by role-playing percentages, with the Amiga doing the cross-referencing instead of your poor, tired finger.

The real key to *Breach 2* is strategy. Since this is based on the actions of a small group, the battles should be short skirmishes where single shots tip the balance, not drawn-out artillery duels. Continual awareness of the group's status is essential. Superior troop strength almost guarantees success, but correct use of equipment can be a real time-saver and a life-saver. A well-placed grenade or neutron bomb could avoid turn after turn of futile laser fire.



Making life difficult for yourself with the mission designer kit.

Initially *Breach 2* is confusing, with troopers only accessible in a certain order and missed mouse-clicks causing unintentional buddy blasting. Once you are over this hurdle though, it's the missions that cause the real problems – and that's just as it should be.
Trenton Webb



The element of surprise is vital. Having forded the river the marine is ready to deal out some punishment. Lock and load, rebel slime balls.



At the river crossing, battle is joined. Use those grenades!

GRAPHICS AND SOUND

Breach 2 doesn't look too good, with small repeated sprites overlaid on a basic map, but it doesn't need to be stunning. The squad are purely pieces in a highly-evolved chess game and the map's no more than an easily viewed information system, that relates details of terrain and cover quickly.

Sound, on the other hand, is not something that wargames generally stress, but *Breach 2* scores strongly. With neat laser shot effect and quirky death cries tied in with a laid-back jazz number to signify victory, this is something of an exception to the rule. While no sonic cathedral, the sounds suitably heighten the fun to be had when zapping defenceless individuals.

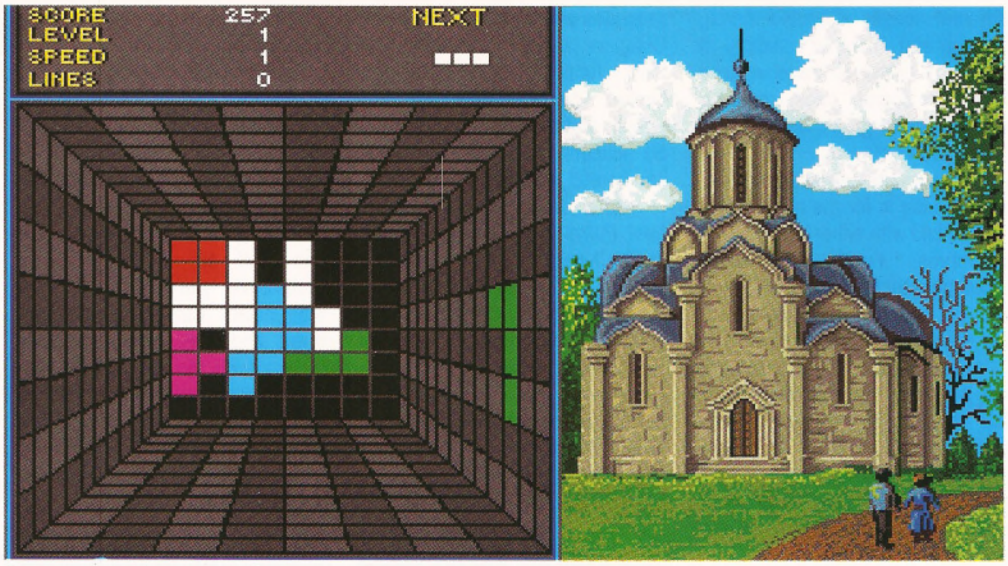
LASTING INTEREST

Breach 2 is packed with good scenarios that can be linked into a campaign, gradually increasing in difficulty – from tough to mission impossible level – as your surviving squad leader grows in power. The initial set-ups alone will keep determined warriors in battle fatigues for months. As a last ace up its sleeve, though, *Breach 2* throws in a mission designer. This allows you to give the enemy or yourself more firepower for serious carnage.

JUDGEMENT

Breach 2 is slow, but strangely absorbing. Once the game as a concept is understood, players can start to use the mechanics of each scenario to their benefit, exploiting the strengths and limiting the weaknesses of a squad. Which makes *Breach 2* the obvious choice for those who like their wars to be personal, face-to-face, hate-filled affairs.

GRAPHICS	3
SOUND	6
INTELLECT	9
ADDICTION	5
OVERALL	79%



Everyone else has gone off to church, so it's time for some serious tile flinging while they're all away!

WELLTRIS

INFOGRAMES £24.99 ■ Keyboard



A high score has been reached, so out comes the vodka and everyone has a right good singalong! These chaps certainly know how to throw a good celebration knees-up!

Whenever puzzle games come under the scrutiny of the reviewer, no matter how eloquent the prose, talk returns to the all-time classic *Tetris*. This time around it just can't be avoided – *Welltris* is the follow-up!

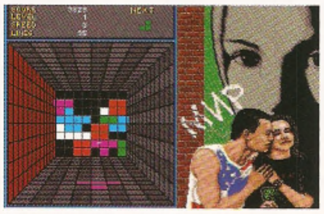
The original had the player manipulating falling blocks so that they formed lines in a vertical, rectangular grid. *Welltris* follows the same principal, except the action takes place in four planes instead of one. Sound confusing? Well it's actually quite simple. Shapes made up of squares fall down the sides of a square 'well'. While they're on the sides of the well, the player can move the pieces sideways around the walls and rotate them through 90 degrees. When the piece hits the bottom of the well, it slides across until it hits a wall or another piece.

The idea is to make solid lines either vertically or horizontally, which are then removed allowing the remaining pieces to slide towards the middle, thus freeing up space around the walls. As an occasional extra a larger bonus piece appears which, when fitted into the grid, gives an extra boost to your score and advances the speed up to the next level.

If any piece leaves a square on the side of the well, then that wall turns red and no piece can be moved onto it for three moves. If all four walls turn red at one time, then no more pieces can appear and it's game over. ***Maff Evans***



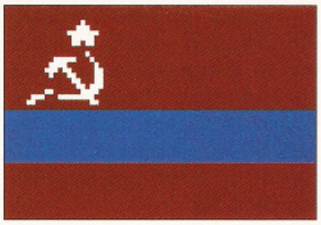
A multitude of options is available to suit your own needs.



"Ow 'bout it eh? Just a quick go at *Welltris* back at my place?"



Russian popsters rock it up – so why the weedy game music?



GRAPHICS AND SOUND

With a game like *Welltris*, there isn't really much need for super snazzy sound and graphics, since the gameplay is all that really counts. Having particularly bad colours on screen could make the going a little daunting though! Fortunately, *Welltris* has been very well designed. The graphics are sharp and clear, with some rather pretty side-screens to make progressing through the levels a bit more interesting. The sound effects are rather atmospheric too, if a little sparse, with an echoey 'clunk' as the pieces slam together when a line is completed and a ghostly howl when a wall is locked up. Unfortunately the tune makes a return to the overly jangly and twee Russian folk songs. After all there is a picture of a rock band in the game, so why couldn't we have a more rockin' soundtrack?

LASTING INTEREST

If you start playing *Welltris*, don't plan on having much of a social life! The first game is all you need to get hooked, then it's just one more game, then another, then another, then...

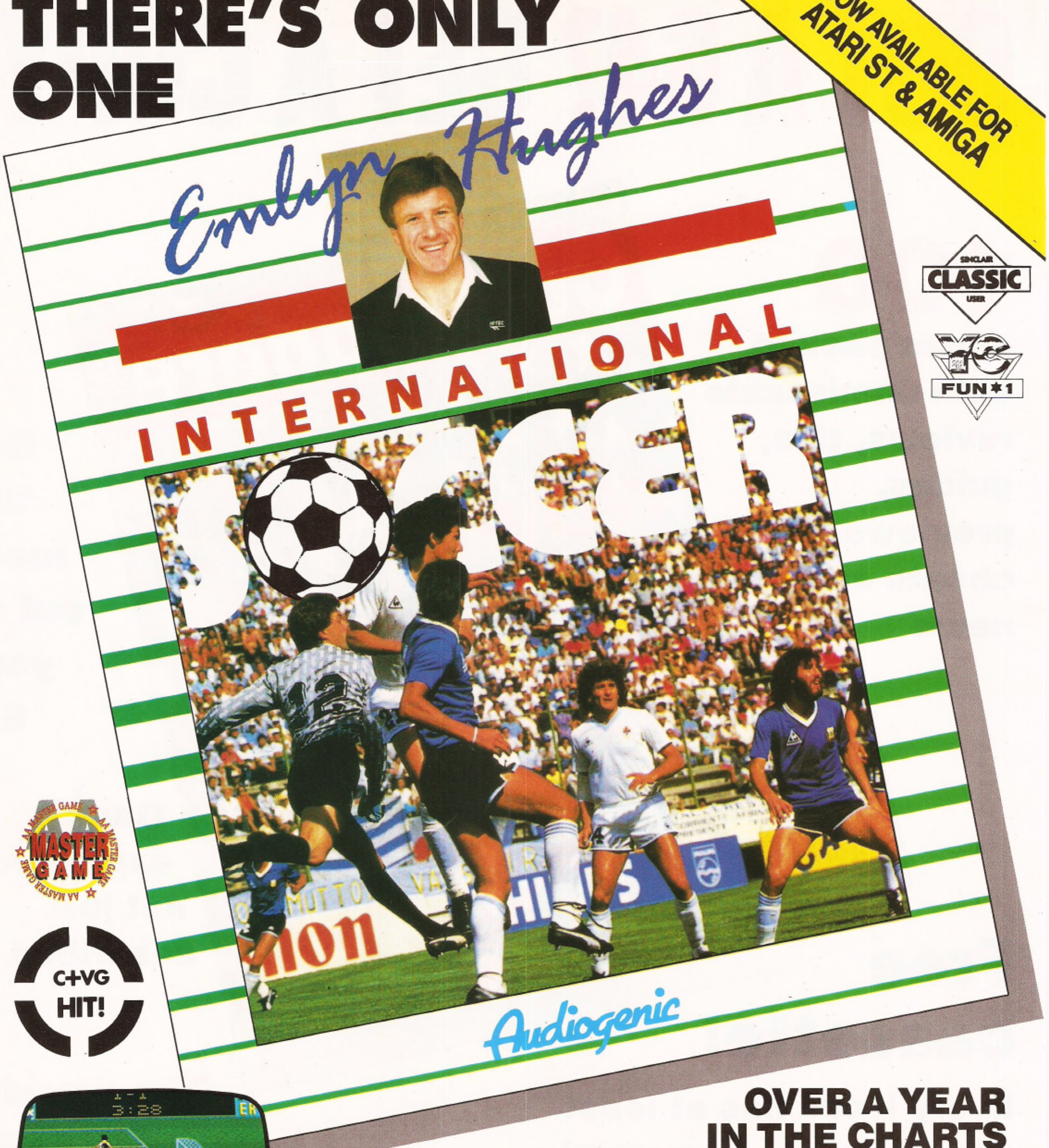
JUDGEMENT

No other puzzle game has managed to break the bounds of originality quite in the same way as Tetris when it first appeared four years ago. The game was so addictive that many people still play it today! *Welltris* isn't quite as original – after all, it is a follow-up – but the principal is just as challenging as ever, and the new variations make it seem almost as fresh as when *Tetris* first appeared. Whether you consider yourself a puzzle freak or not, get hold of a copy of *Welltris*, then try the real challenge of tearing yourself away from the game!

GRAPHICS	7
SOUND	4
INTELLECT	6
ADDICTION	9
OVERALL	88%

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The 8-bit soccer game of the 80's becomes the 16-bit sensation of the 90's with the release of the long-awaited Atari ST and Amiga versions.

When EMLYN HUGHES INTERNATIONAL SOCCER was released for C64, Spectrum and Amstrad, reviewers were amazed. It rated 90% in ZZAP, 91% in Sinclair User, 88% in Games Machine, 91% in Amstrad Computer User, 94% in Computer & Video Games, 887 in ACE, Game of the Year in CCI – we could go on for ever!

Now, with the release of the Atari and Amiga versions reviewers are reaching for their dictionaries to find new superlatives. ZERO described the game as 'totally excellent', the sound as 'absolutely brilliant' 89%; Your Amiga rated it 'the best soccer simulation to date – 95%'; YC World Cup Winner 97%.

Forget the rest – there's only one EMLYN HUGHES INTERNATIONAL SOCCER!

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Facing the sniper is a tense business. The sights have to be used to scan the tree-line looking for a tiny muzzle flash – then shoot!



A change is not always as good as rest, as the weary troopers of your squad continually let you know, so a kip's often the only option.

GRAPHICS AND SOUND

Lost Patrol is a joy to watch. Packed with still and animated screens, it captures the war-weary mood of the GIs and the natural beauty of Vietnam. These still frames are backed up with digitised sequences of troopers romping through the jungle, M-16s at the ready. These can be turned off to speed play along, but are vital to the game's structure. Motivation stems from the desire to see the next scene as much as getting back to Du Hoc for a warm can of Bud'.

The movie idea is supplemented with a great theme and the occasional excellent effect: the metallic lock and load sound as the snipers force rounds into the breach, for example. Some may damn *Lost Patrol* as a series of impressive graphics strung together with a tenuous plot. But with Vietnam accepted by popular cultural as the first TV war, its story can only be captured using film techniques. Any other genre would have lacked the 'Nam feel that *Lost Patrol* exhibits.

LASTING INTEREST

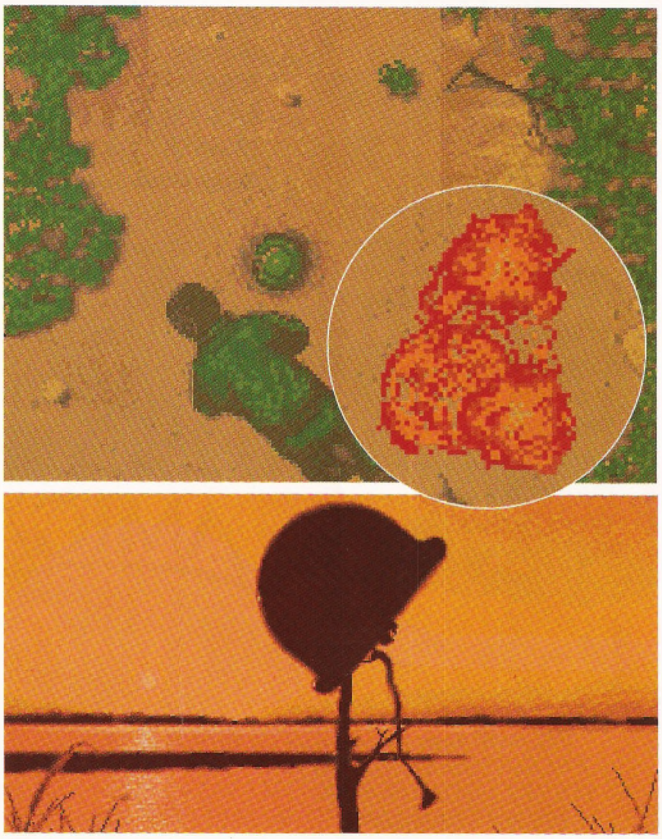
Lost Patrol stresses the graphic element, and so has massive instant appeal. Yet there are only 28 intermediate scenes, 5 digitised sequences and 10 arcade or interactive sub-games. There's a lot to see, but it can get repetitive meeting the same VC patrol sub-game time after time. Even the arcade sequences get dull once the best techniques for overcoming the obstacles or enemies are learned. A bunch of weary troopers would not attack VC patrols merely to nick their supplies, but once you've sussed the sub-game this does become a practical proposition.

The Lost Patrol will feasibly find their way home with in a few days. The pictures may lose some of their appeal after repeated sightings, but there's still enough of a game buried beneath the graphics to justify the project. All the same, only the die-hard and the foolhardy will see everything and still make it home.

JUDGEMENT

Lost Patrol looks good and plays well enough to capture the atmosphere of America's worst national nightmare. There's little unity in the squad, no will to survive, and you as Sgt Weaver must turn these city boys into jungle warriors. Holding them together as a unit you must balance their whining with just enough military discipline to see you through. *Lost Patrol* lets you go 'in country' for a short while and earn a little glory – or at least a Purple Heart – without the necessary trauma of being shot at while there and spat on when you reach home.

GRAPHICS	9
SOUND	4
INTELLECT	6
ADDICTION	6
OVERALL	79%



One brave platoon member tries to negotiate a minefield. Unluckily he doesn't make it and you're treated to the dead GI screen.



The river crossing is no hassle but it does slow you down. Still, you get to watch the animated screen of boatmen while you wait.



A GI encounters a lone VC in one of the combat sub-games.



A grunt's life is not a happy one, all walking and no killing!

LOST PATROL

OCEAN £24.99 ■ Joystick/Mouse/Keyboard

Vietnam in 1966. 400,000 American soldiers fighting a war on foreign soil, for a cause few understand. The US military, winning hearts and minds at the point of gun, rules the air. The VC, baptised by fire at Dien Bien Phu, rule the jungle.

This is now your problem: your squad was returning to base in a helicopter when the 'bird' went down. Stranded 57 miles from 'home' walking's the only option. Armed with minimal ammo, a few grenades and two days' supply of food, the Lost Patrol is under your command. The only obstacles that lie in the way are minefields, VC patrols, hostile villagers, booby traps and failing morale.

In this unique icon-controlled graphic adventure, you must guide the team across the main game map to the last outpost on the road to hell – Du Hoc, the only place you can call home. A compass is used to guide the boys by clicking on one of the points. The team walks at three different speeds – double march, normal and extreme caution. It would be better to travel at 'gee Mom, I'm scared' pace, checking every blade of grass, but the food supply won't allow it.

Your grunts can search areas, rest and dig in for the night. Traps can be laid with either grenades or claymores. Food consumption must be strictly limited. No vast list of options, but enough to survive in Charlie's back yard.

Using recon info, scouts work out the lie of the land terrain-wise but not Charlie-wise. The enemy just pops up, in small parties or large groups toting heavy machine guns, and each has a different arcade sequence to decide the encounter's outcome.

One-on-one confrontations are beat-em-up sub-games. Both troopers stupidly put down their guns and try to punch the living daylights out of each other. Group encounters have the marines pinned down in a foxhole. Standing up to shoot or throw grenades and ducking to avoid the Cong in a *Op Thunderbolt*-style blast. Against the machine gun bunker, grenades are the only option, and they're in short supply. So soldiers need quick, accurate and careful throwing.

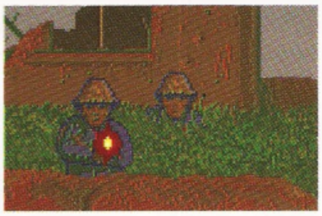
Other interactive elements of *Lost Patrol* (aka *Nine go mad in Indo China*) are the minefields, snipers and dealing with villagers. Minefields require a bayonet and some slow digging if you're to get past without going 'poof'. Snipers are a pain in just about any part of the body. Your chosen marksman scans the tree-line with a telescopic sight, seeking the virtually invisible muzzle flash of the VC who's taking your squad apart man by man. Dealing with locals gets very heavy indeed, with two of the four options being kill one and kill all – we are talking Mai Lai simulator here. Questioning them can earn food, while searches reveal tunnels.

The men who are under your command are a fickle bunch, considering you're trying to save their necks. Cut the food supply down and they complain. Make them march too fast or too long and they whinge about lack of sleep, and if morale drops they run off into the bush. Suicidal for them and the rest of the platoon.

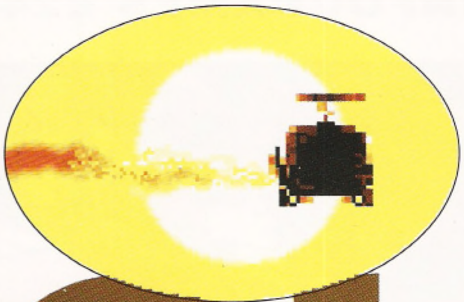
Trenton Webb

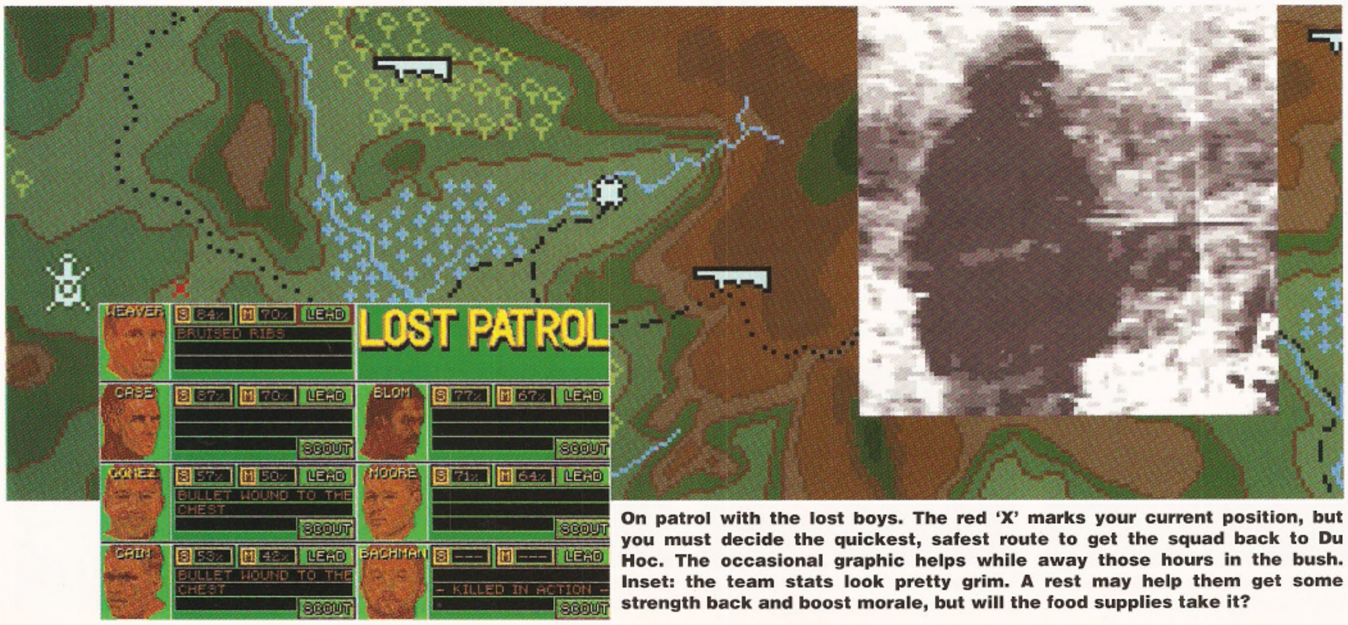


One of the neatly art-worked incidental screens.



At war with the VC. Blast them before they shoot you!





On patrol with the lost boys. The red 'X' marks your current position, but you must decide the quickest, safest route to get the squad back to Du Hoc. The occasional graphic helps while away those hours in the bush. Inset: the team stats look pretty grim. A rest may help them get some strength back and boost morale, but will the food supplies take it?

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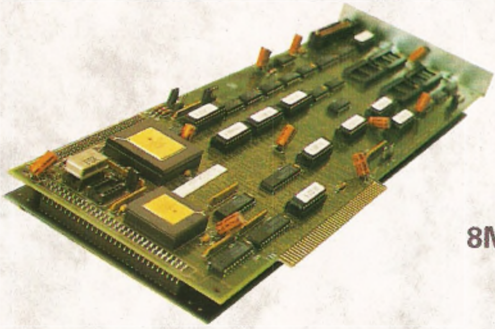
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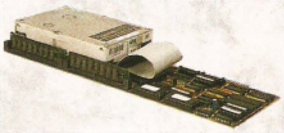
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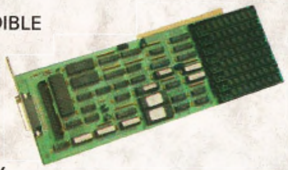
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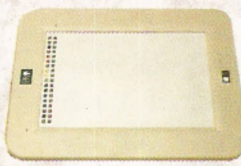
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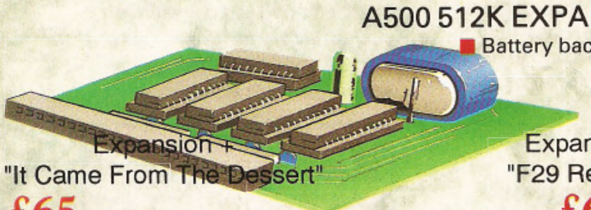
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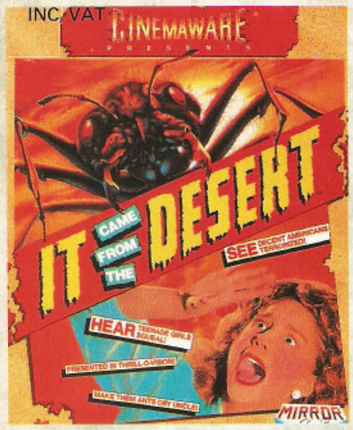
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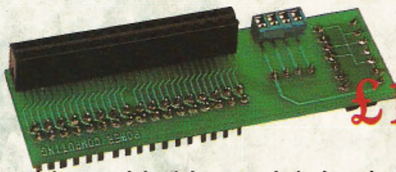
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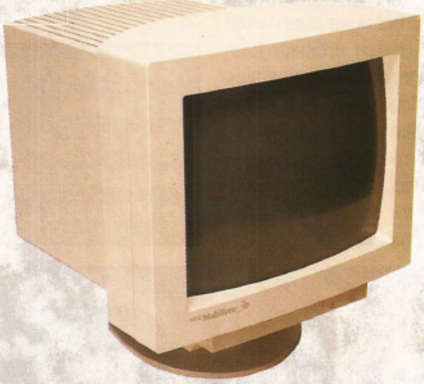
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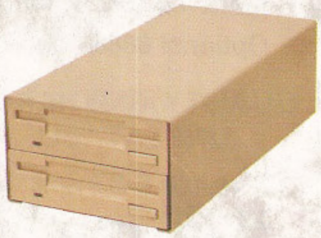
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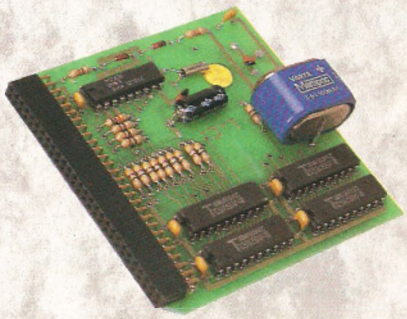
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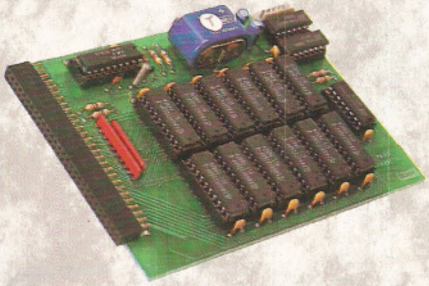
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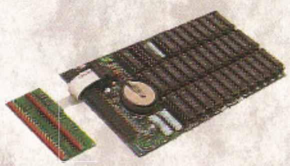
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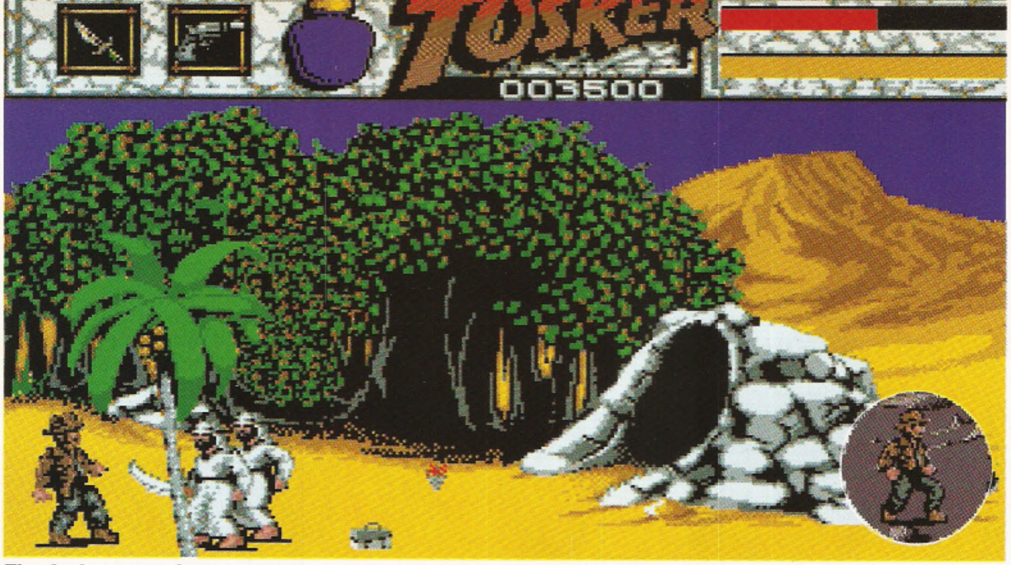
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The Arabs get serious. These two are unkillable, unlike their brothers on other screens, but you need to get both the torch and the ammunition before entering the caves. Life's like that for explorers.

TUSKER

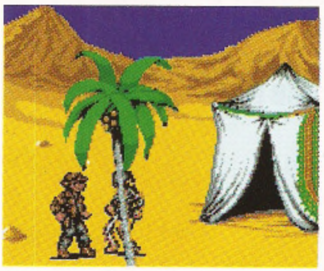
SYSTEM 3/ACTIVISION £24.99 ■ Joystick/Keyboard

According to legend there is a secret place where all the elephants go to die. Next-door to this proboscidean hospice is the elephant's graveyard, ivory city! Your old man spent his entire adult life searching for this mysterious place and since he's croaked you've taken over his mission.

Tusker's set in the horizontally-scrolling style. As the intrepid grave robber you bounce through the wilderness, bashing evil Arabs and topping terrible beasts in a bid to solve the ancient mystery. There's a rucksack full of kit to pick up on your quest, each bit with a specific use.

What to do with the gun is pretty obvious; once you've found the bullets, blow things to kingdom come. Similarly any underground exploration requires a light source. So select the torch and what do you see? Darkness. That's how it will remain until the matches are used to set the damn thing alight.

The epic adventure begins in the burning desert, a land populated by poisonous snakes and big guys wearing bed linen. Don't get cocky though, because even when you've beaten these ordinary foes there are some unnatural enemies to avoid: a deadly whirlwind that saps energy like there's no tomorrow, and a massive hand that seeks to scrunch the brave adventurer up like so much used Kleenex. ***Trenton Webb***



"I saw this one in *Raiders*" Tusker jnr said, going for his gun.

GRAPHICS	8
SOUND	6
INTELLECT	7
ADDICTION	6
OVERALL	68%

GRAPHICS AND SOUND

Bright, brash cartoon graphics capture the feel of swashbuckling adventure. The simple and clean game design is only marred by the odd problems Tusk jnr has stepping over minute pebbles, or walking around obstacles. The flick-screen scrolling is annoying, since the hero can't see what's up ahead. The theme is a moody, slow-paced tune that's almost but not quite totally inappropriate for the fast pace the game encourages. The effects are unconvincing, but that's in keeping with the cartoon style of the graphics.

LASTING INTEREST

This running around lark is all very exciting, but can get dull if you don't get anywhere. After a few sorties around the desert, the caves become apparent, and after that the jungle. There's ever more stuff to collect and more combinations of kit to discover, but with only four lives getting far takes repeated playing. Every survival trick must be learned before you stand a chance of reaching somewhere new.

JUDGEMENT

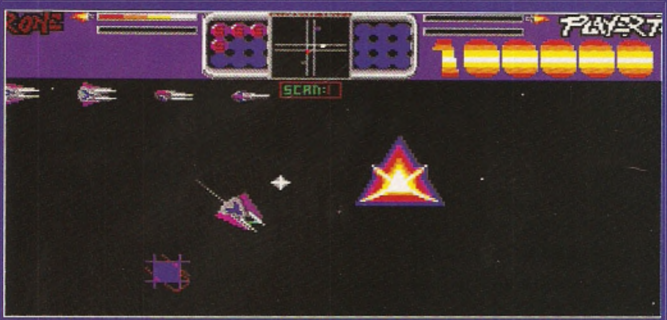
If *Tusker* gets the hooks into you it will last for aeons, as you hack through masses of undergrowth and villains. Even with the combination factor for items, though, the game cannot be viewed as anything radically different from the avalanche of horizontal arcade adventures that have gone before. That said there's nothing wrong with *Tusker*, it's just that it will never be a contender, no matter how much pushing and shoving you do.

PHOTON STORM

ARC £19.99 ■ Mouse

Jeff Minter, long famed for his psychedelic video game 'trips', has come back after a long silence with a rerelease, *Gridrunner* (reviewed last issue) and a new game in the shape of *Photon Storm*. This game places you in control of a flying 'dart', zooming through space collecting dangerous plutonium pods. The pods have been lost and are scattered throughout various sectors. You must fly around collecting as many as possible while fighting off waves of alien attackers. If all the enemies in a wave are destroyed, you can jet through the portal to the next sector, storing any pods you have managed to protect.

As you'd expect from Jeff, the appearance of *Photon Storm* is bright and colourful, with cycling psychedelic colours used liberally throughout. The action of the game itself is frantic and should appeal to fans of his earlier work, but those unfamiliar with the Minter 'freakout' scene may find themselves frustrated due to the strange and sometimes unwieldy control method. Unfortunately, *Photon Storm* – despite its fast and frenetic pace – doesn't break any new ground over Minter's older games and this limits its appeal. *Stuart Hancock*

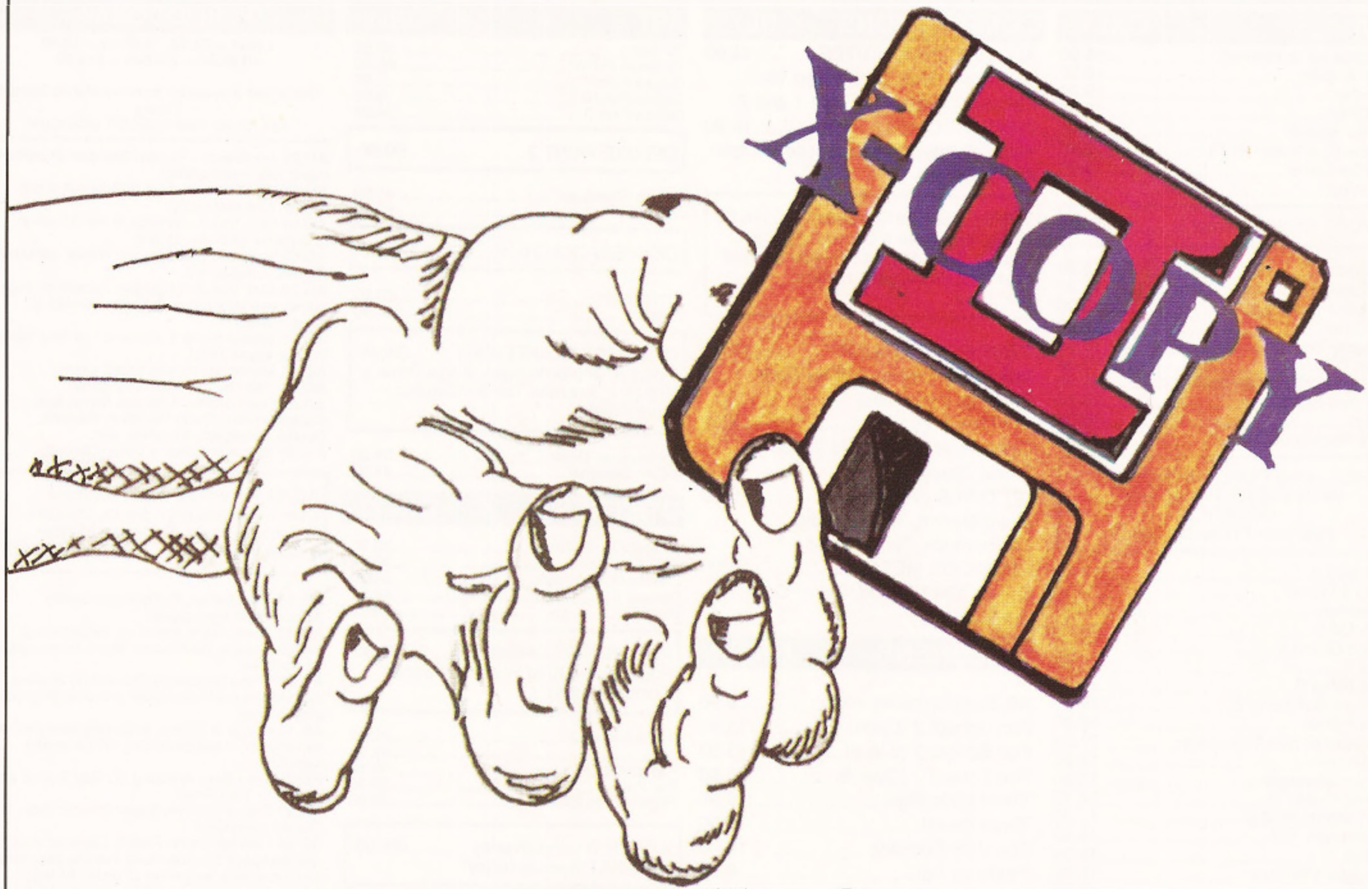


The Photon crusier gets attacked by a blue square! Move that cursor round and shoot it dead or head for the pyramid.

GRAPHICS 6 / SOUND 4 / INTELLECT 2 / ADDICTION 6 / OVERALL 62%

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LAST NINJA 2



SYSTEM 3 £24.99 ■ Joystick

The mere idea of a Last Ninja Two is a strange and wonderful paradox, but it does give hope to the Dodo. It could mean two things; either the Last Ninja One was a downright fibber or it was in fact the penultimate ninja. The game itself is a shuriken-em-up outing combined with an element of puzzle solving. To add to the interest, and to give that real coin-op feel, there is also a clock to play against.

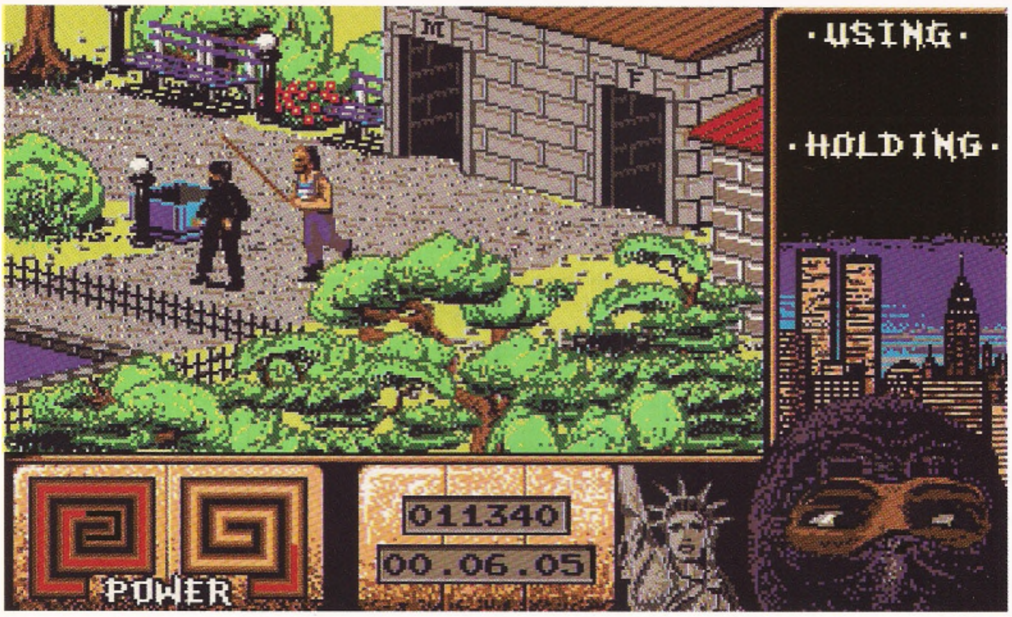
Not surprisingly, you get to play a highly-trained yet caring and pyjama-clad Ninja of the first water. You even have a name – Armakuni – possibly you were descended from a race of French fashion designers versed in Ninjutsu. Certainly this is the way you look until the rather eccentric joystick controls have been mastered. Best advice here is not to bother with finding things or beating people up – nope, you should really spend some time working out a way to move from one place to another without walking into invisible walls. Although the isometric pseudo three-dimensional movement is a pain in the jim-jams, it does fit quite happily with the scenario.

This, Norman 'Ninja' Wisdom script sees you standing around with the rest of the chaps a few centuries back in time, when suddenly you are whizzed into the future and find yourself standing on a bandstand. Willing suspension of disbelief or what!?

At the outset, the idea is to explore locations and pick up the odd weapon (rather absent-mindedly, you neglected to come tooled up). The further you get into the game, the more places there are to explore and the more people there are to amaze with your deft fighting skills. Once you're really into the game… there are hundreds of places to explore and… you get the idea, I'm sure. The idea is to get home in one piece so that you and the rest of the lads can design some really neat French clothes or defeat the evil Shogun, Kunitoki. ***Tim Smith***



It began as a growth on his big toe… a Ninja gets a right biffing.



Behind you!!! Behind you!! Yet again the severely uncoordinated Ninja gets into trouble with the brutish occidental thug. Lucky you've got so many other interesting bits to look at on screen…

GRAPHICS AND SOUND

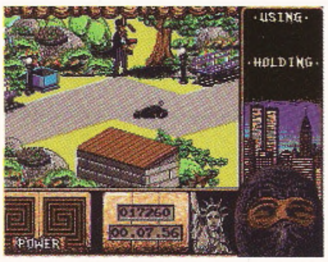
The scenes have that pleasant blocky form along with the smoothness of movement only found in gazelles – with lumbago. Little Armakuni does a great Michael Jackson moonwalking backwards if you forget to press J on the keyboard to alter the joystick orientation (so handy for those fight scenes when timing is of the utmost importance). As for the sound, there is very little to speak of aside from the soundtrack, which is nice enough but does leave you wishing that they'd never invented that bloody flute voice on the synth. This really is quite a disappointment because the possibilities for some sickening thuds and whistling leaps are endless.

LASTING INTEREST

The one saving grace is that it is not merely a 'kick the shoot out of everyone' session and neither is it a 'my brain hurts' exploration game. If you really commit yourself to it, there is a chance that some enjoyment can be extracted from the playing time. In true terms of lasting interest, however, you have to give the game more than it gives you.



A gate, a wall, a ninja. It's up to you to work out the, er… puzzle.



Nelly ninja gets it in the neck neurosis… not his day, really?

JUDGEMENT

The sad thing is that the ideas are all there; the 3D movement is a step up from the run-of-the-mill vertical or horizontal stuff. The attempt to mesh intelligent puzzle solving with brute force has merits… it's just that none of these elements really come close to working together. The feel is wrong purely because you have to work so hard to communicate with the game that you lose the interest in the scenario, and, as for poor old Armani, you couldn't really care less about him. That said, if you were committed enough to want to pit your game-playing skills against the game then it might see you through those long autumn afternoons.

GRAPHICS	5
SOUND	4
INTELLECT	6
ADDICTION	4
OVERALL	58%

NEUROMANCER

ELECTRONIC ARTS £24.99 ■ Mouse



Oh dear! Who's been a naughty Cyberspace Hacker, then?

The year is 2058. Technology has improved so vastly in the last 20 years that every association and company is linked into a common computer network. The centre of the world's technology scene is Tokyo, particularly an area known as Chiba City. This is where the Cowboys hang out.

Cowboys are 21st Century hackers, using state-of-the-art machines called Cyberdecks to 'jack' into the alternate reality that houses the mega-corporations' computer systems. This place is Cyberspace. Fortunes can be made by someone who's expert at travelling in Cyberspace, but the risks are costly. One false move can result in death.

In *Neuromancer* you play a down-and-out cowboy who has lost access to Cyberspace, lost his money, lost his deck and is fast losing credibility in the hacking world. You awake with a groggy head in a run-down bar called the Chatsubo. From here you have to find your way around Chiba City, attempting to recover your deck and find enough information and equipment to upgrade to Cyberspace entry level.

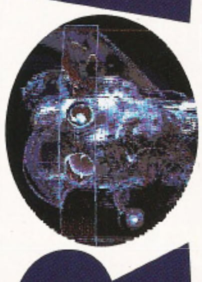
Walking around Chiba City is achieved by moving a cursor around the screen so that it points in the direction you want to go, then holding the button. When you find someone, you can select an option from a series of bubbles to speak to them. Only by planning conversations carefully will you glean anything from the inhabitants of the city.

You can also access computer matrices with a deck (once you have one), which could either give you money or useful information to help you further in the game. Upgrade enough and you can regain your status as a top Cowboy and solve the mysteries being perpetrated by the conglomerates in Cyberspace. ***Maff Evans***



Feeling dry? Then pop into the bar for a drink and a chat!







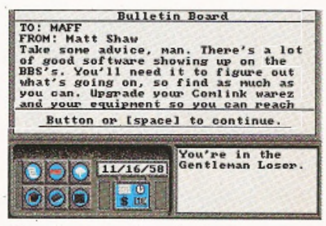
Ooer! Looks like you've strayed into the rather dubious area of town. Better behave yourself or you could get picked up by the fuzz.

GRAPHICS AND SOUND

One of the main charms of William Gibson's book and the whole genre is the dark, oppressive and generally run-down atmosphere that it evokes. Unfortunately, although Neuromancer the game has some nicely drawn and animated screens, the atmosphere of the whole thing is much too pristine. Where are the rough grebo styles? Where are the deteriorating buildings retro-fitted with new hardware? Where is the shady, smoggy feel of a high-tech city? Left out, it seems. The sound does little to back up the atmosphere either, consisting of a few weak tunes and the odd thin spot effect. The presentation does its job – but unfortunately, that's about all.



The proprietor of this bar drives a pretty hard bargain!



Check out the bulletins, they could provide some useful info.



Try telling this guy that arcades are trivial and there'll be trouble!



Stick to the right bars and the girls there may help you out.

LASTING INTEREST

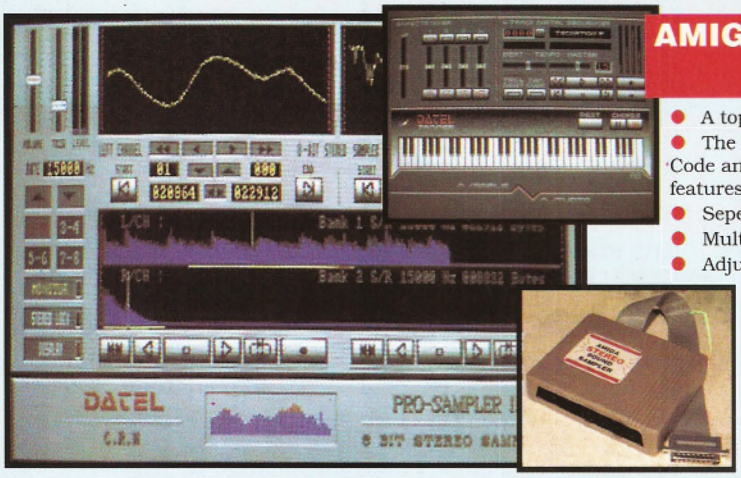
As is the way with most role-playing games, *Neuromancer* has a fair amount of depth to the gameplay. The clues help you gradually find your way through, but a great deal of thought and memory are required to make it all the way. It will be some time before you manage to get past the problems in Chiba City and jack into Cyberspace, and since Cyberspace is where the serious gameplaying begins, it will still be quite a while before you complete the game.

JUDGEMENT

Up until now, there has been little in the way of Sci-Fi Amiga RPGs for techno-buffs to get their teeth into, so *Neuromancer* (despite having been around on 8-bit for some time) has an original edge. The gameplay is involving and should have role players struggling through for some time. Fans of the original book may be disappointed, however, since the atmosphere is rather removed from the gloomy scenes evoked by the novel. Nevertheless, *Neuromancer* is still a more than reasonable adventure and stretches the old grey matter for a good while.

GRAPHICS	7
SOUND	3
INTELLECT	7
ADDICTION	7
OVERALL	81%

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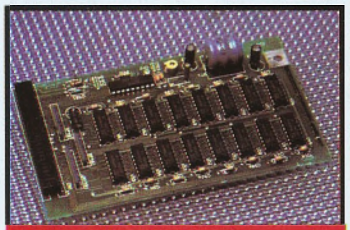
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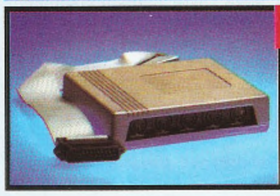
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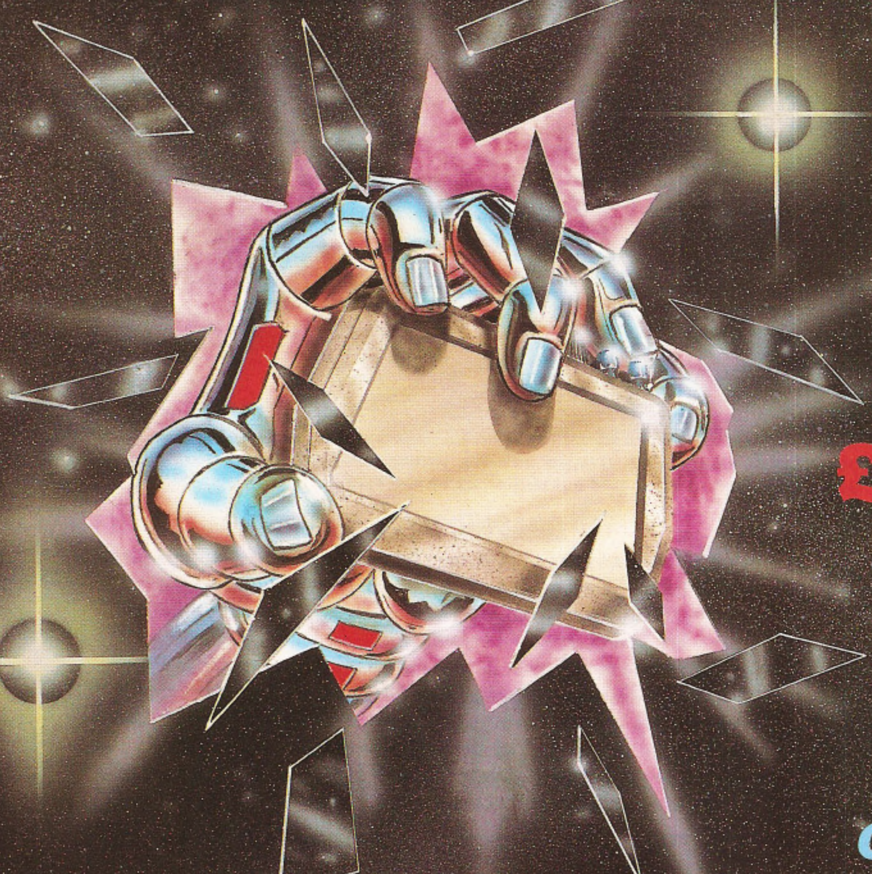
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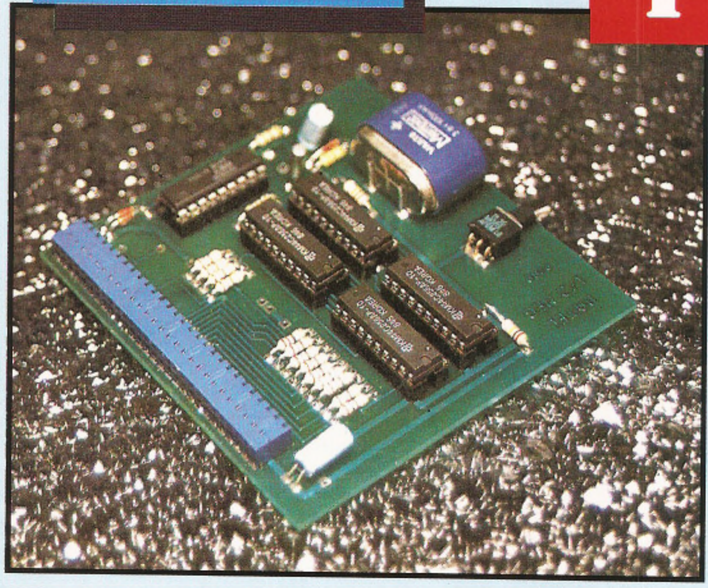
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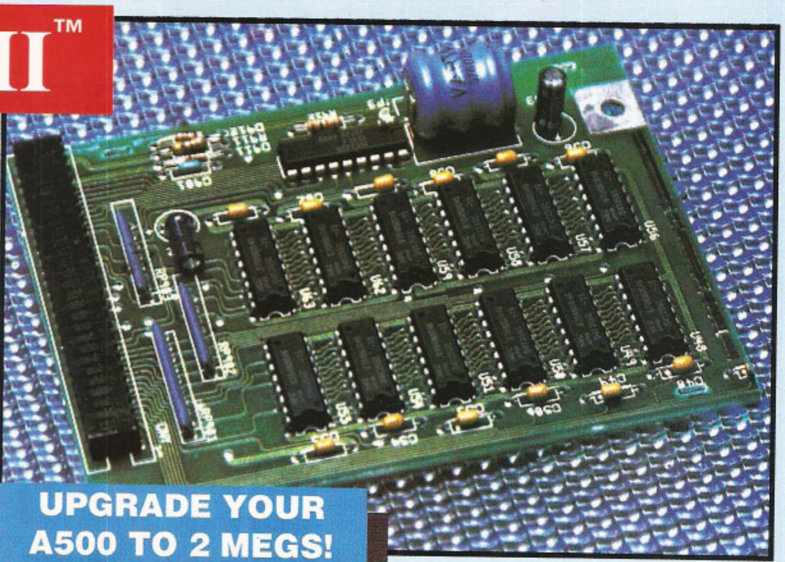
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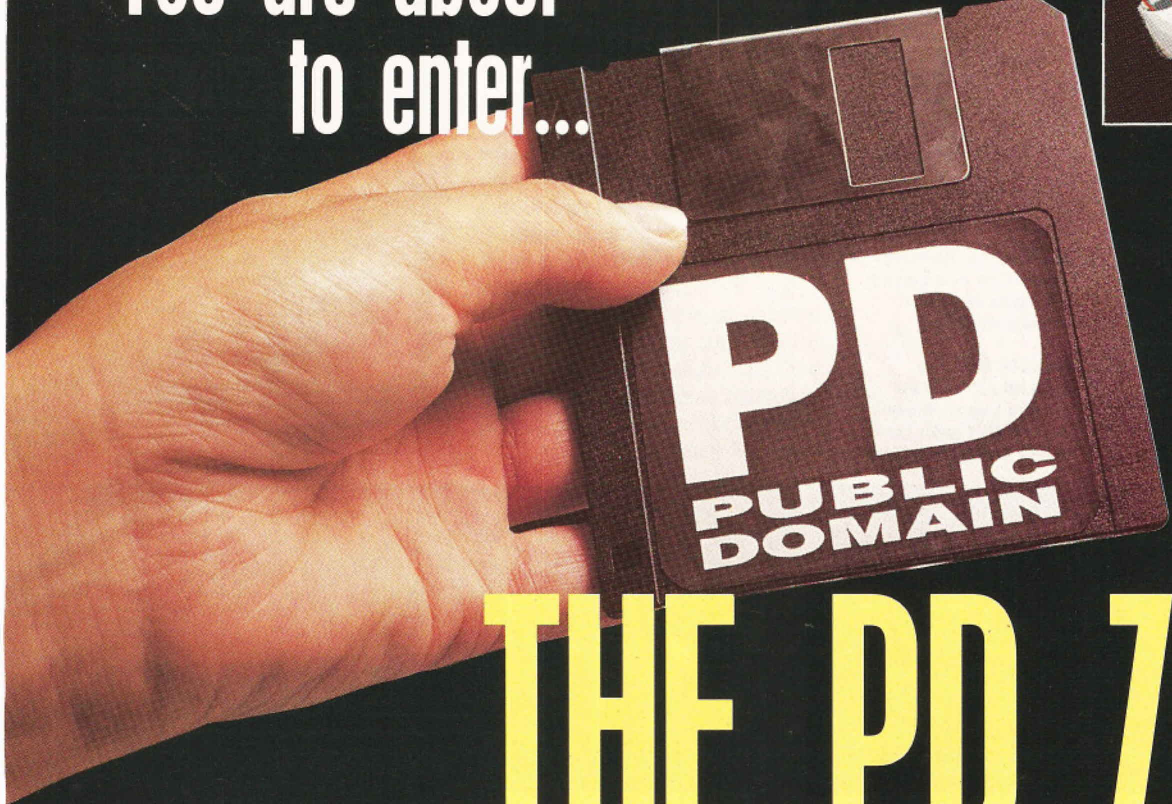
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THE PD ZONE

What is Public Domain software? Where can you get it? Why do people write it? Is it free or not? What's the crack? As usual, we have all the right answers to these and many more questions, as **NEIL DAVEY** takes a look at the PD scene.

The trouble with having a brilliant graphics and sound computer is that you have to feed the darn thing. And this, as you've no doubt discovered, is an expensive business. But fortunately for the tight (or empty) of pocket there is a way to feed your Amiga without selling your shirt. Public Domain, or PD.

Now then, Public Domain is just what it says; it's software which is in the public domain, or to put it another way, copyright free. The thing is, you can get a copy of a PD program either by buying it, or you can copy it from anyone if they have it, and you'll be perfectly legal. There's no copyright to infringe, see?

Why do they do it?

What kind of man spends weeks thinking of an idea, typing a program in, testing it, correcting the mistakes, compiling, debugging, testing, and all the rest, only to give the program away at the end of it? They must be out of their tiny minds, right? Nope, wrong. they're just really into the machine, mate. The kind of people who release a program into the public domain are people who want to see their name in lights, or people who earn enough from programming serious software not to need the money (or indeed all the hassle of marketing a program) themselves.

Or sometimes they do a simple program and it grows and grows with each revision into something similar to a professional program. Or maybe they write a demo, just to show off just how flippin' skilled they are. Either way, the idea is to get a program to you and not make any dosh out of it, and it's just because they love to do it that they don't expect any pay-off.

Two of a Kind

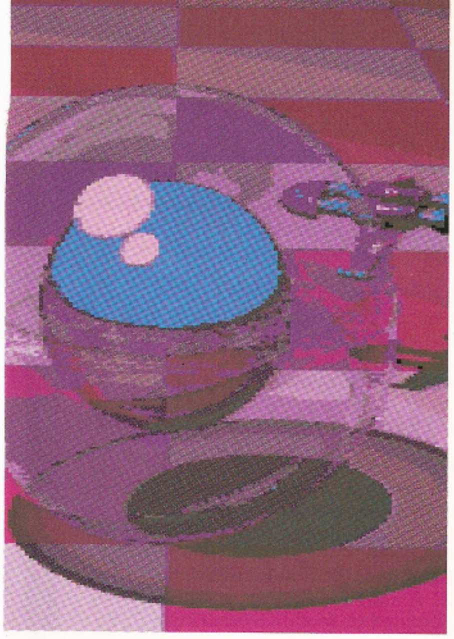
There are basically two types of PD software: utilities (utils) and demos. Utils are where a guy will write a program for his own use and distribute it to his friends to use too. It might be a conversion program for converting graphics from one format into another. Or it might be a program which does something to disks to mend them if they get errors on, or optimise them so they run better. Anything like that.



The logo of Scoopex, just one of many demo-writing crews around.

Either way, the utility writer knows that the commercial viability of the program is zero, but by putting it into the public domain he will become famous and his name will be spoken in hushed tones the world over. Most utils start up as freeware and end up as shareware, where the user pays for updates etc.

Demos have a far more sinister past, but serve a similar purpose – making their makers famous. Once upon a time there was a computer called the Commodore 64 – yes, it's a long way back, but bear with me, all right? Anyway, so there were certain people who, for fun or profit, cracked the copy protection on games and





Rather than being congratulated by Pixar for his cleverness he was severely reprimanded for copying a Pixar trademark. More than slightly miffed about this, Leo went back that night and changed the animation to be an Amiga 'boing ball' juggling three unicycles. The next morning the animation was on every stand at the show, and there was absolutely nothing Pixar could do about it.

After that Pixar came in for a lot of stick, and even Allan Hastings had a pop with his *Car* animation. A unicycle strays across the road in that path of a famous Allan Hastings object, the red Lotus sports car. More recently, a German bloke called Tobias Richter has popularised *Videoscape* once more, with a huge mound of *Star Trek* animations like the amazing *Fleet Maneuver*.

Only in the last few months, though, Tobias has paid tribute to Allan Hastings with his brilliant *Chase* animation. A road full of Allan Hastings Lotus objects stretches out before us, and a police car chases another car through the traffic. The cars are all Allan Hastings' original design except for the police car, which has a flashing siren on the top. It's not going to be long before a new program comes along to oust *Videoscape* as the primo 3D program, but until then there will be plenty of people willing to work out their 3D objects on graph paper!

GAMES

Many writers try their hands at games, and I'm not quite sure why these products are not sold commercially, as they are usually very high quality. *Steinschlag* is a version of the popular falling brick game, *Tetris*, and a very good version it was too. Shame about this one is that the owners of the copyright to *Tetris* have recently clamped down on this otherwise perfectly legitimate copy, so the likes of Fred Fish have been asked to excise the games from their libraries. Ours is not to reason why, I guess.

Another game which has its roots in commercial products is *Battle Force*. This is a very complex game based on the popular *Battletech* fighting robots Role Playing Games by FASA. You may recall that Infocom and Activision had a crack at doing *Battletech* games recently, with good but not wholly great results. This version is very much closer to the actual role playing game itself, and will satisfy any real *Battletech* buff for realism. A tad complicated for your average point and shoot merchant, but a real corker for the strategists.

Tobias Richter also made a game, with a predictable *Star Trek* bias, and very good it was too. There is also the most stonking *Star Trek* trivia game too, (called *Trek Trivia*) with over nine data disks of the hardest questions ever asked on *Star Trek*. As there are no *Trek* games on the Amiga except in the PD, these are essential playing for the Trekkers among us. (Beam me up, Scotty).

There are so many games it's impossible to talk about them all, but there are literally types for all tastes. Text adventures, graphic adventures, 3D vectors, arcade games, puzzle games, you name it.

FRED FISH

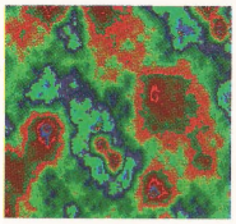
Many of the games and utils I've mentioned are gleaned from the Fred Fish Disks. Fred has been collecting PD and releasing it since time began (about 1985) and now has about 400 disks of utils, games, and generally neat stuff, Amigawise. His disks are available from all the major libraries in the UK, and form the backbone of many a power PD collection.

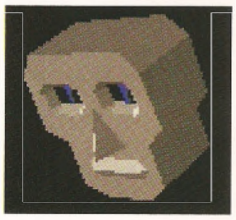
To see what's on the Fish Disks, try a copy of Aquarium, which is a nice PD database system specially created for the Fish Library and tells you everything you need to know as well as letting you search for certain types of program.

GRAPHICS

There are a great many graphics utils on the Amiga, and in most cases a program can be found to do almost any task you want – to create new graphics, turn graphics from one form to another and even to subtly transform or treat them in some way.

Tracer is a PD ray-tracing program which, although quite limited in what it can portray, actually has some very powerful features. You can map IFF graphics onto the surfaces of objects as you trace them, creating some very lifelike effects.





Claz and *IFF2PS* are two, quite different, programs which convert normal IFF files into Postscript files. Postscript is a graphics definition language designed by Adobe Inc and what it means is that instead of being a graphic representation of the picture you want, like the IFF bitmap type picture is, the file is actually a set of instructions for the printer to draw the picture. So the file is a text based list of instructions rather than pixels. Spooky, huh?

Why would you want to do this? Well, the quality of the output you get from a Postscript laser is about 6,000,000 times better than what you'd get on your scratty old Epson 9 pin, that's why.

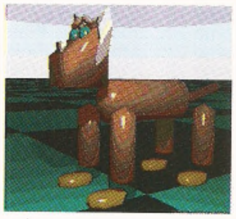


On the American bulletin board service, Compuserve, they came up with an interesting idea for graphics, whereby graphics for all formats were converted to a common format for downloading, called GIF or Graphics Interchange Format. More and more GIF files re finding their way onto UK boards, and so the programs HAMGIF and AmiGIF now have more relevance than they did about 6 months ago. With these programs you can convert GIF files to HAM and any IFF file to GIF. This means that files meant for other computers can be used in Amiga programs. Pretty wild, huh?





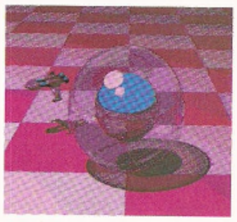
And finally there are out and out converters, one of the most useful of which is *MacView*. This allows you to take a *MacPaint* art file and convert it to an Amiga IFF file, giving you access to one of the world's biggest libraries of graphics. So like I say, think up a way you'd like to tinker with your graphics, and there'll be a PD program to do it, guaranteed.



DISK UTILS

For the more techie amongst you there are a whole pile of useful programs for doing various tasks which otherwise would be impossible.

NewZap is a handy disk util which lets you examine and alter the contents of a file at will. Using this you can dive into a file and alter the text which appears, in a scrolly message for example, or even more funnily in the high score table of a game! This is easier in older, more badly-programmed games, but just think of





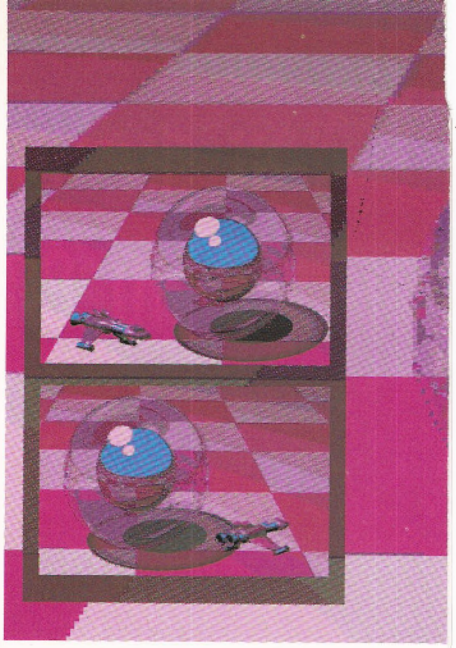


called themselves crackers. (Judges and policemen have other names for them, 'criminals' mainly, but sometimes 'felons', 'jailbirds' and repeat offenders are called 'recidivists'.)

Anyway, they cracked the games and compiled them all onto one disk with a little intro on the front with silly names, like the MaxPax, Animal Crackers, The Cracksmen etc. These intros were just simple screens with text on and with a bit of music,

RIGHT: The Starship animation is a classy example of a ray-traced squence.

BELOW: Humour abounds on the PD demos scene. If you can do this with your nose, let us know...





perhaps. Then, more and more, as they hacked the games and programmed the intros they got so good at coding they forgot the cracking completely and concentrated on the intros themselves.

About the time that demos were born, the Amiga came along and the already thriving demo industry turned its attention to this new machine. The intros of various cracking teams were gathered onto disks by new coders, who then put their own demos on the front of those. The megademo was born, and nowadays these often stretch over up to three disks!

And so to the present, where demos form the lifeblood of PD, and are a whole new artform. It goes like this: a guy buys an Amiga, and begins collecting demos. He compiles disks of other coders' PD demos and does his own intro. Then he gets so good he joins a coding 'team' and codes some stunning megademos. Then the team do a totally stunning demo and then promptly sink from sight. They are next seen coding games and programs for commercial companies. Quite a lot of commercial companies take notice of demos, and you'll find a lot of popular games coded in Europe are done by ex-demo artists.

What-Ware?

To confuse the issue still further, not all PD is totally free – in other words, it is not all the type of free software called 'freeware'. There are different varieties, but mostly the non-free type is 'shareware'. This means that you can try out the software for a while and if you like it you are supposed to send a fee, usually quite small, between £5-£25 or something like that, to the author. Shareware is normally of slightly higher quality than PD or freeware, and sometimes the authors are expecting to earn quite a lot out of it.

Some PD authors do in fact make a bit of money out of shareware, which is a very nice, mellow and Californian way to go about things. In spite of the fact that quite a lot of people are bound to use shareware without paying the fee, there are benefits, like upgrades, documentation and contact with the author. Registered users get newer versions automatically in most cases, as well as printed manuals.

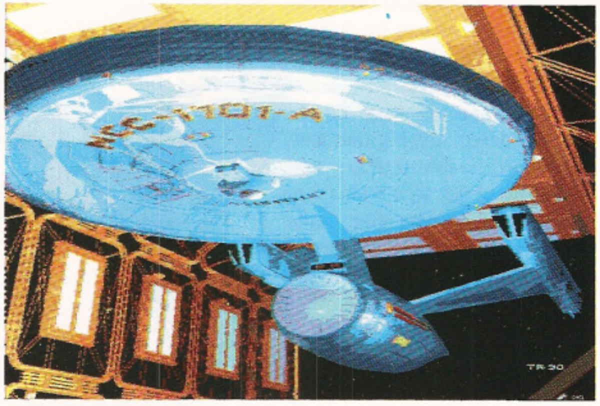
BELOW: *Star Trek* is a dominant theme, especially for demo-writing Trekkie Tobias Richter.

FAR RIGHT: A whole heap of assorted demo themes, from digitised Madonnas to ray-traced wooden dogs. A motley crew!

Although this process very rarely works, due to the innately mean nature of mankind as a whole, there are some interesting and sometimes just plain bonkers variations. 'Beerware', for example, was a concept whereby if the user got a lot of use out of the program he was to send a six-pack of beer to the author! Now there's an idea we have a great affinity with... cue daydream... nice pub garden, sunny day – Editor looming across the lawn carrying an axe... *(Oi, get on with your work! – Ed).*

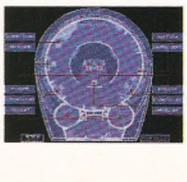
The Best in PD

So what's hot and what's not in the PD field? There are certain disks which are useful, some which are just fun and some which are just amazing. There are great utilities which every Amiga user no matter how technical must have, like *Disksalve*, and some which are nice little twiddles which make life easy, like *SID*. Here is our definitive list of PD items which have caught our eye, and this should give you a taste of what's around so you can start your own PD collection.









ANIMATIONS

Demos as we know them today originated as either music or graphic animation demos. In the early days, demonstration versions of certain proprietary graphics programs were favourite, especially the likes of *Videoscape 3D* by Aegis. Exponents of this particular program were few and far between, because it takes a certain type of mind to operate a program as complex as *Videoscape*. But some did, and indeed still do.

Originally all the very best *Videoscape* animations were either by Allan Hastings (the author of *Videoscape*) or Leo Schwab. Leo was a real Amiga character, often to be seen at shows wearing a velvet cape and looking decidedly odd. The story of how the *Berserk* animation came about is probably an interesting folk tale based on real events, but here's the way I remember it.

At one particular show, they showed a video of the now-famous Pixar cartoon *Red's Dream*, where a unicycle is seen juggling some balls. This was great, thought Leo, and so he went back to his hotel room, where of course he had his trusty Amiga set up, and had a late night hack attack. Next morning he proudly showed off his own version of the unicycle juggling the balls.

the effect on your friends! Okay, so that's fun, but what about a more serious problem? What happens if one day you boot a program and find that it is corrupted? Complete disaster, right? Nope. All you need is *Disksalve.*

All this is is a more complex version of the old favourite DiskDoctor that appears on your Workbench disk, only more effective to say the least. All you do is put a formatted disk in one drive and the broken disk in the other and type "Disksalve DF0: to DF1:" and off it goes for about 20 minutes, searching for busted sectors and mending them, sometimes making educated guesses about what should be there. It's totally brilliant, and it's free!

ICONMASTER

If there was an equivalent of *DPaint* for the creation of icons, then *Iconmaster* would be it. With this very well-made piece of kit you can create icons or edit existing icons, load *DPaint* brushes, and paint in what looks like eight colours using only four. It's a very solid little program and is certainly the best icon maker around in the PD.

FILE COMPRESSION

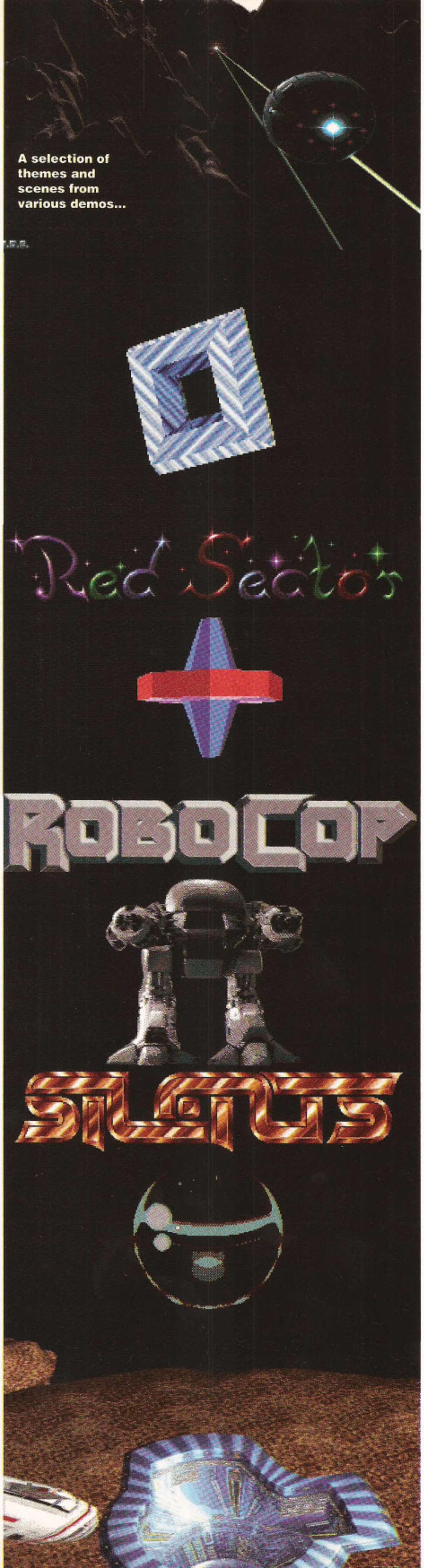
Sometimes programs take up too much room, there's no getting away from it. On bulletin boards it seemed like an idea (to save people's phone bills) if the files they downloaded were compressed in some way, so that the users could uncompress them the other end and get at the programs.

Many compression or archive programs were created for this very purpose, like *Arc, Zoo, Lharc* and *Pkazip,* and all are still in use today. If you use comms then these are essential utils for getting at programs you get from BBs.

But what if you want code to take up less space on your disks and yet you want to still use the programs? Then what you need is *Powerpacker.* This shrinks a program or file in a special form that means when you use it, it automatically unpacks itself and runs normally. *Powerpacker* is fast becoming the standard program for compression, so much so that the latest version is a commercial product. The original version is still available in the PD, though.

TEXT READERS

When you click on an icon called 'ReadMe' or something, the text you see is being displayed using a program like *Muchmore* or *PPMore.* These text readers take a normal ASCII text file and display it so you can read back and forth through it on screen, rather than printing it out. This means you can send text files with a program on the disk rather than on paper. Neat stuff, eh?



A selection of themes and scenes from various demos...



SID

One of the biggest bugbears about using an advanced computer like the Amiga is that in order to utilise some of the higher functions you need to use the flippin' CLI. This is a bit scary to some and just plain boring to others, so some nice guy came up with the idea of a PD helper, a little interface between you and the Amiga.

SID is the jobby I'm talking about, and with it you can look at picture files, hear sounds, do all sorts of file housekeeping like copying, renaming and deleting, do directories, make directories, wash up, dry up and put away, all in one easy-to-swallow capsule. (Er, where was I again? Oh yes...) *SID* takes all the graft out of handling disks, and no serious Amiga user should be without it.

FRACTALS AND CHAOS

One of the most popular demos to do is the fractal demo. Some, like *Turbomandel,* draw the Mandelbrot set in double quick time, far quicker than any program you could write for yourself, and in any resolution. This is the preferred fractal engine and using it you can make any fractal picture you like, and very beautiful they are too. Scenery on the other hand, is a program which draws fantastic fractal mountains, and it was so good that the new version is once again a commercial product.

SCREENX

Another screen util which nobody should be without is *ScreenX.* This enables you to shift screens around and even save them to disk as IFF files for later. Brought to you by the maker of one of the world's favourite (wait for it, wait for it)...

...VIRUS KILLERS

Otherwise known as *VirusX 4.0.* The virus is one of the biggest problems facing Amiga owners in the Nineties. You really should have one, and use it every week, especially when you get some new demos etc. Make sure your system is clean before you put anything in it. By far the best programs around are the type that check your system every time you boot, like *Check Vectors* (*CV*) or *Virus Hunt* (*vhunt*). You simply insert the program in your startup-sequence and Bob's your uncle. Nothing can get through.

COMMS

Most of the programs used to communicate with bulletin boards down the phone line are PD, like *AZComm,*

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CCPD37 Conquest, Hockey, Larn, Othello, Pegboard
CCPD50 AmigaMaze, Chess, GravAttack, Yelp, Gravity Wars, Go-Moku
CCPD56 Hack (Lite)
CCPD94,95,96 Star Trek (1 Meg +2 drives)
CCPD97 Flaschbier
CCPD98 Wanderer, Cosmic Conquest, Yacht C, Four in a Row, Tetrix, Black Box
CCPD103 Retaliator, Sorry !, PacMan87
CCPD130 BallyII, Battleship !, Chess, SYS, Paccer
CCPD137 Moria (1 Meg)
CCPD140 Tennis (1 Meg), Car
CCPD141 Escape from Jovi, Tiles !, LadyBug
CCPD158 Orbit 3D, Diplomacy, SYS
CCPD161 Asteroids, Blackjack, Hearts, Miniblast
CCPD191 Puzz, Zerg, World, Daleks, Callisto, Pontoon
CCPD196 AmigaMaze, Labyrinth II, Monopoly, Picture, Puzzles, Sky-Fight
CCPD207 A Nice Day In The Maze, Bull Run, CRobots, Wrap Trap
CCPD211 Cards'o'Rama, JackLand, Rubik, Steinschlag
CCPD229 MechForce
CCPD262 Cat & Mouse, Peter's Quest, ShootOut
CCPD264 ATC, Crystal Caverns, Dominoes King's Korner, Solitaire, MirrorWars, Obsess-o-Matic
CCPD266 Galactic Worm, Paranoids, Marble-Slide
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NEW DEMOS

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CCPD282 Dragons Megademo 1
CCPD285,286 Kefrens Mega-Demo VIII
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USLID4 Fantasy pictures by The Dark Lord

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Access VISA



Access! and *JRComm* for scrolling text based boards, and Supertex for videotex-type boards like Prestel. All mod cons, most of them, but unfortunately shareware in the main. There's a good reason for this, and that is that they are flippin' brilliant.

DEMO CITY

And so to the demos. (Phew!) Trying to name all the best demos is like naming all the stars you can see from Blackpool, but let's have a browse around what's been happening and give you an idea of what to look for.

Scoopex are a popular demo crew, and their "Mental Hangover" is a megademo par excellence. I guess it won't be long before these guys do their own games, and that will be great and a shame at the same time.

In the same way, the "COMA" demo is one of the very best music type demos, and it looks and sounds like an acid house video on the Amiga. The Rebels' "Subway" demo is nice too, as is the by now notorious "POI-POI" demo you may have seen all over the place at the 16-Bit Show.

Tobias Richter can be relied upon for a snappy *Star Trek* animation, so look out for those if you like sci-fi. Watch out for the "CeBIT" demo from Red Sector too, as that is one of the most original and best-coded demos I've seen for a long, long time. Also watch out for stuff by SILENTS as they have nice sense of design and always deliver good value.

The Crusaders are very good music coders, and their "Bacteria" demo is brilliant if you get a unbugged version. And finally, the "Horror Show" by Fraxxion is very horrible but very well done, being a bit of a video nasty on disk. There, that ought to get you going. Let us know your favourites, won't you?

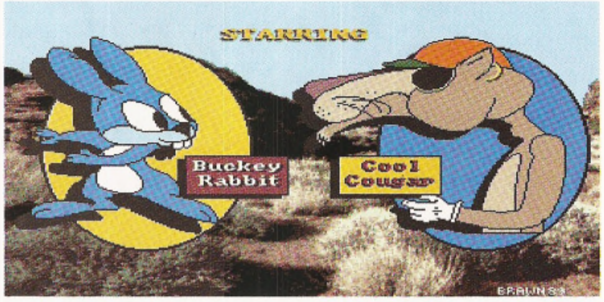
Where Can I Get It?

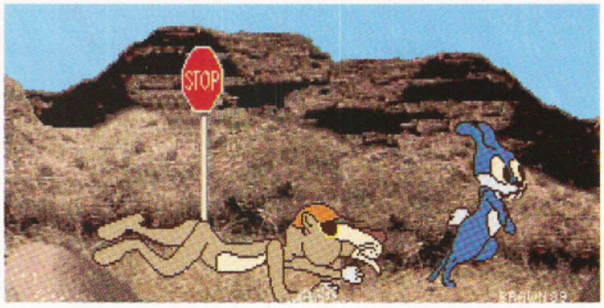
The pages of computer magazines are FULL of ads from companies offering PD software, and because there is no copyright on the disks, there are more each day. You could set yourself up as a PD library simply by copying some PD disks and printing a catalogue. But you mustn't make too much money at it.

Some PD houses make a profit on what they sell, under the guise of 'carrying charges'. The usual charge is about £2.50-£3.00, which, even allowing for the price of a disk and postage and packing, still leaves a profit for the seller. Most reputable libraries charge only £1.50 to £2.00, so be warned.



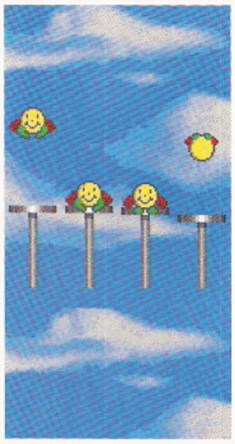
If you want to get some PD disks:
- Look at the press and see PD Library ads, or...
- Join a user group and feel the benefit of their library.
- You can even turn up to computer shows, and this is favourite with me, as you can try before you buy. Or...
- Find a mate who gets a lot of PD and copy his stuff.
- Buy a disk magazine which publishes PD on it and just lift the programs off it.

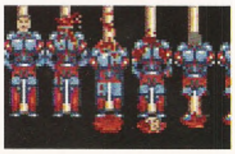






CUTE SCENES: The Cool Cougar, above, and the infamous POI-POI, below.





More simply, take a look at the large list of suppliers below, or browse through the following addresses. These are the people I buy from, and the service is first class.

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Tel: (0924) 366982
Another entertainment specialist, with over 700 of their own disks, as well as the Fish Disks and other well-known libraries. Prices have recently dropped to £2.00 or any 10 disks for £18.00. One of the first PD houses to start publishing their own games.

George Thompson Services, Unit 1, Dippen, Brodick, Arran, Scotland
Tel: (077082) 234
Veteran PD sellers, and distributors of all major PD libraries like Fish, TBag, and FAUG. Also agents for the disk magazine Jumpdisk, which never fails to amuse and delight.

Softville, Unit 5, Stratfield Park, Elettra Avenue, Waterlooville, Hampshire, PO7 7XN
Tel: (0705) 266509
A nice, big, friendly family business, who are always much in evidence at the various Amiga computer shows. They publish a very slick catalogue, and carry the Fish Disks, Amicus, PAN, Slipped Disk and FAUG libraries as well as their own SOF library.

UKAUG, 144 Charles Street Leicester, LE1 1LB
Tel: (0533) 510066
Very good national user group for Amiga, with an extensive members-only PD service plus extensive discounts on hard and software.

ICPUG, Membership Secretary PO Box 1309, London, N3 2UT
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The Independent Commodore Product User Group is the oldest user group for ALL Commodore computers. They have a massive library for all tastes, demos or utils. Again members-only.

SUPPLIERS

The following companies all contribute to the distribution of Amiga public domain software in this country. For their full addresses check the advertisements in this issue of *Amiga Format*, or give them a ring on the numbers listed here.

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Star Trek the game (two disk version)
Kefrens Megademo
Star Trek animation (Agatron)
Recoil exclusive music disk (THR)



HOW TO ENTER

On the back of a postcard or stuck-down envelope, put the 10 disks in order of popularity from 1 through to 10. Then send it to: Recoil Comp, Amiga Format, 30 Monmouth Street, Bath BA1 2BW. The entries should reach us by September 17th and don't forget to include your name, address and phone number on the postcard.

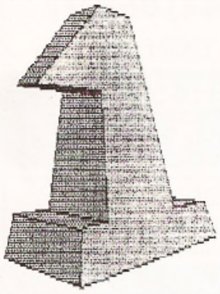
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Employees of Future Publishing and Recoil PD are not allowed to enter. The judges' decision is final. No correspondence will be entered into.



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D140: KEFRENS MEGADEMO Terrific, highly recommended
D145: FORGOTTEN REALMS PICTURE SHOW Fantasy Devil Hobbit type pics
D146: RSI MEGADEMO Probably still the worlds best ... GET IT (2 disks)
D151: DEATHSTAR MEGADEMO inc fantastic cosmic explosion! (2 disks)
D153: PUGGS IN SPACE Brilliant, the ONE you must have!!!!
D157: SPACE ACE DEMO Best on 1 meg, demo of game
D160: TRILOGY MEGADEMO Recommended, includes Shoot 'em' up (2 disks)
D161: PREDITORS MEGADEMO inc 2 games! Great Aussie Demo (2 disks)
D162: KEFRENS MEGADEMO 2 Another great selection of demos (2 disks)
D167: YESH ITS MENTAL TOO! Jokes and insults. You have been warned
D180: SCOOPEX MENTAL HANGOVER State of the art. Had rave reviews!
D186: ANARCHY DEMOS Includes Coma Demo for Aciid freaks!
D188: DRAGONS MEGADEMO Seems to be highly rated! Nothing mega
D305: EXODUS WIGGLY PICCY SHOW Picture show with ??? (1 MEG)
D306: SUN SLIDE SHOW 2 Great hand made pictures.
D508: STAR TREK ANIMATIONS Very popular animations
M005: KAKTUS & MAHONEY Great mixture of music
M013: TITANICS MUSIC One of our best but note V1.2 or 1 MEG & No F/A
M029: VANGELIS DEMO Great Music, fantastic light show! (1 MEG)
M030: DIGITAL CONCERT 2 Over 12 mins of good sampled house!
M040: FREEK'D OUT Cheeky graphics and great music, recommended
M048: ITV MUSIC 3 good mixes including 'Get Up'
M054: PACE MUSIC Chart tunes get the Amiga mix treatment

X RATED (Please state you are over 18)
X102: PICTURE SHOW VOL 2.Glamour Piccys with Glen Miller Backing
X107: MEGATON MAN Amazing humorous naughty show (No Fat Agnus)
X108: SHOWERING GIRLS Our best seller at the moment1 (1 MEG)

GAMES
G103: STAR TREK GAME 1 Great sound (2 disks, 1 MEG, 2 drives)
G103A:STAR TREK GAME 2 Sound plus piccys (3 disks, 1MEG, 2 drives)
G107: STAR TREK GAME 3 Tobias's all new latest Trek Game (2 disks)
G109: BLIZZARD Great horizontal shoot em up

STOP PRESS .. STOP PRESS .. STOP PRESS .. STOP PRESS .. £1.35 per disk
Brilliant demos just in. These have to be in your collection!!
D033: TOMSOFT TRIP TO MARS ... Fantstic filled vectors. Game quality.
D034:BUDBRAIN MEGADEMO ... (2 disks) Great, funny, animated cartoons.
D035:CRIONICS DEMO ... Superb 'Madonna Boop' cartoon plus more...
The above 4 disks "WILL KNOCK YA SOCKS OFF" so get them now!!!

LATEST IN **PLEASE NOTE £1.35 PER DISK**
D192: BRUCE LEE DEMO ... By Pendle Europa, Digi piccys and good tune
D193: COOL COUGAR ... Digi piccy with cartoon overlays. Clever! (1 MEG)
D197: AMAZE DEMOS 2 ... 6 demos including scroll editor!
D198: END OF CENTURY MEGA DEMO ... Not mega but good! Good cartoon.
D002: TRIANGLE MEGA DEMO ... Good scrollies and vectors plus piccy.
D004: DARKNESS MEGA ... Original loader makes this worth having!!
D008: STATIC BYTES MEGA-DEMO ... a six part mega demo. All clever stuff.
D010: NO LIMITS DEMO PACK 0381 ... Bootmenu Construction Kit + 7 demos!
D016: IRIS OLYMPIA DEMO ... Parallax scrolling at its best?
D020: TRADE DEMO ... Great Shakatak type first tune! Well presented.
D308: J.O.E. SLIDESHOW 2 ... nice digi piccys. good, no excellent show.
D309: PHOTOMONTAGE 1 ... Another collection of digitised pictures
D310: PHOTOMONTAGE 2 ... using Digi-View Gold. A brilliant collection
D311: PHOTOMONTAGE 3 ... of High res stuff from UTOPIA
D312: ROGER DEAN SLIDESHOW ... This is not new but it is good slides
D314: GOLAMS SLIDESHOW ... Fantastic 'handmade piccys' Get it
D316: ELVIRA ... Excellent demo piccys from the game! (what game?)
D317: EXODUS NAZI DREAMS ... Digi piccys of (don't mention the war!)
D320: IRON MAIDEN SLIDESHOW ... Some good piccys of I/M type stuff!
D321: POPEYE MEETS THE BEACH BOYS! Short but you WILL chuckle!!!
D323: ITS OBSCENE 5 ... BAD language phonecall. hilarious! (2 disks)
D515: WALKER DEMO 1 ... Walker in front of the Amiga 2000 (1 MEG)
D516: WALKER DEMO 2 ... Walker attacked by the helicopter (1 MEG)

MUSIC
M056:DEXION MUSIC DISK ... Good sounds and lots of tricks!
M071:BEYOND 2000 ... 10 good tracks. RSI plus Crusaders featured
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M086:VISION MUSIC MASTERS ... More house from the cool boys
M092:DIGITAL CONCERT 3 ... Another 12 mins plus of super mixing!

XXX - RATED (Please state over 18)
X111: HORNY MOUSE SLIDE SHOW (part 1) More of those ... girls!!
X112: HORNY MOUSE SLIDE SHOW (part 2) and even more bits!!
X113: BODY TALK ... (1 MEG, 2 disk, 2 drives) Utopia's high res goodies.
X114: BUSTERS!! ...Makes Showering Girls, look Sunday School pupils!!
X116: NBS XXX (BY JAZ) ... Naughty piccys plus very naughty film!
X118: THE TRAVELLER SLIDE SHOW ... Fantasy pics with lots of nice ....
X119: MARIA WHITTAKER SLIDE SHOW ... All is slowly revealed, digi strip.
X120: DELIRIOUS ... Eddie Murphy! Good idea, awful attempt (4 disks)
X122: DIE FILKINGER ... Cartoon pics, of chaps with big...

GAMES
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Steve Bak's back with a stunning platform game steeped in ancient mythology and compelling arcade action. Guide Yolanda, daughter of Hercules, through 12 tasks and lift the curse that plagues her family.

BRIMBLE'S BEATS
Allister Brimble demonstrates why he's best when it comes to creating sensational four-channel sampled sonatas. Roll over Bach!

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Keep track of your mouse pointer's whereabouts with Jonathan Potter's pucker pecker checker.

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It's that time of the month again when you get to dabble with the dubious delights of demented programmers' discoveries. NETWORK your Amiga or you'll be MSIZER and BANG to rights...

FSDIR
Cut down on your Amiga floppy drive's grinding and increase the speed at which directories are delivered with Chris Hames' devious utility.

RAPS
An intriguing variant of the classic game Draughts, played on a four-by-four board. Immensely playable as well as frustratingly addictive.

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ENSURE YOU WRITE-PROTECT YOUR DISK BEFORE USE!

disk EXTRA

The disk is packed with the usual diverse collection of useful utilites and fun and games. All you need to know is how to use it. RICHARD MONTEIRO explains.

YOLANDA

PROGRAM: MILLENIUM
FILES: YOLANDA, YOLANDA.DOC

Long, long ago, when ZX Spectrums and Commodore 64s stalked tall, there was a man with a mission. The man was Steve Bak. His mission was to write a game based on the heroic deeds of Hercules. And so the game featuring the Greek demi-God was grafted. But, lo, time passed and soon other machines came to be. And that man Bak came back to recreate another Greek legend. *Yolanda* was born.

Yolanda is based on a game for the Commodore 64 called Hercules, written back in 1984 by one of the most prolific and proficient of programmers, Steve Bak. Although Steve isn't credited with coding the Amiga version, he heads the team responsible for such deeds.

Hercules, being around 3000 years old and suffering terribly from piles, decides his daughter Yolanda should carry on his great work. Yolanda, a strapping 2970-year-old Greek blond bombshell, is subsequently cursed by the Goddess Hera who is extremely envious of Hercules' daughter's stunning looks.

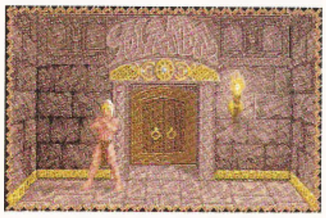
The curse goes thus: anyone Yolanda falls in love with will die horribly within a week of their meeting. If, however, Yolanda can re-enact the 12 labours of Hercules the curse will be lifted.



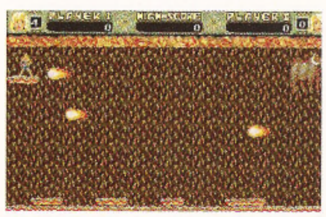
This skimpily clad blond bombshell is Yolanda, Hercules' daughter. Don't let her looks deceive: she'd much rather mash you than mush with you.

The full game features over 50 levels of tough platform action. In this demo version you are placed on the first screen of one of the first 11 missions. If a screen is completed you can go no further in that mission. If you die, which is much more likely, a new screen is selected. This continues until you have no lives.

You must keep moving or the floor beneath you will burst into flames and disintegrate in seconds taking you with it. Long Tarzan-style vines which initially appear harmless may suddenly explode in a fireball as you touch them. Some screens appear disquieteningly harmless, but platforms will suddenly appear as you leap into nothingness. The correct route to



Yo! Landa give us a handa with saving the World.



Steve Bak's 1984 C64 Hercules polished and reprogrammed to bring it in line with the '90s.

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complete the screen must always be taken – finding it will be taxing.

Getting Started

Reset the computer and place Coverdisk 14 in drive df0: (the internal drive). Click the left mouse button when the introductory message appears. A menu displaying the contents of the disk will appear. Press F1 to load *Yolanda*.

A help file will appear first. Read this for hints on the game. Press Esc to exit the help file and run the game.

Ensure there's a joystick plugged into Port 2 and press the fire button to start the action. Controls are simple enough: left and right for left and right movement respectively, Fire to jump.

BRIMBLE BEATS

PROGRAM: ALLISTER BRIMBLE
FILES: BACH80SMIX, BACH80SMIX.DOC

An excellent example of what can be done when one of the master of Amiga music puts his mind to it. From the main menu press F2. Alternatively double-click on the cumbersomely-christened BACH80SMIX from the Workbench and enjoy one of the best sampled sonatas around. Pressing the left mouse button halts the music.



MOUSE COORDS

PROGRAM: JONATHAN POTTER
FILES: MOUSECOORDS, MOUSECOORDS.DOC

Here's a short program to show you the coordinates of the mouse pointer. It's handy for such things as aligning icons or checking the position of graphics from within packages that don't offer such a facility or even cluttering up the screen with yet another gadget.

Getting Started

Pressing F4 from the main menu will cause a window drag-bar to appear in the top-left corner of the screen. Alternatively double-click on the file MOUSECOORDS in the MOUSECOORDS drawer from the Workbench. You'll notice the X and Y coordinates of the pointer being updated as you move the mouse.

The JUMP gadget allows you to move the *MouseCoords* window to the next screen. If *MouseCoords* is on a screen other than Workbench, you should either jump *MouseCoords* elsewhere or close it before closing the screen.

ZOOM!

PROGRAM: PUBLIC DOMAIN
FILES: ZOOM!, ZOOM!.DOC

A phenomenal feature-filled utility that sits in less than 2K. *Zoom!* replaces *PopCLI* (a CLI window summoner), *QuickMouse* (a mouse accelerator), and *Pyro* (a screen blanker). Extremely useful. To access the various features:

- Press the Left-Amiga and Esc key simultaneously to produce a new CLI window. Any old CLI command can be entered directly.
- Your mouse will be made to move more rapidly automatically. If you shift your mouse faster than three ticks per I/O message, which is actually pretty rapid, *Zoom!* will accelerate the pointer. Thus you can have a fast pointer when required and fine resolution the rest of the time.
- The screen is automatically blanked after 300 seconds. You can change the blanking time by pressing Left-Amiga and F1 for three seconds, F2 for 300 seconds, and F3 for a time of 3000 seconds. The screen is restored if any keyboard or mouse activity is detected. The pointer is blanked after 10 seconds of no movement. This gets the mouse pointer out of the way; any mouse movement brings the pointer back.

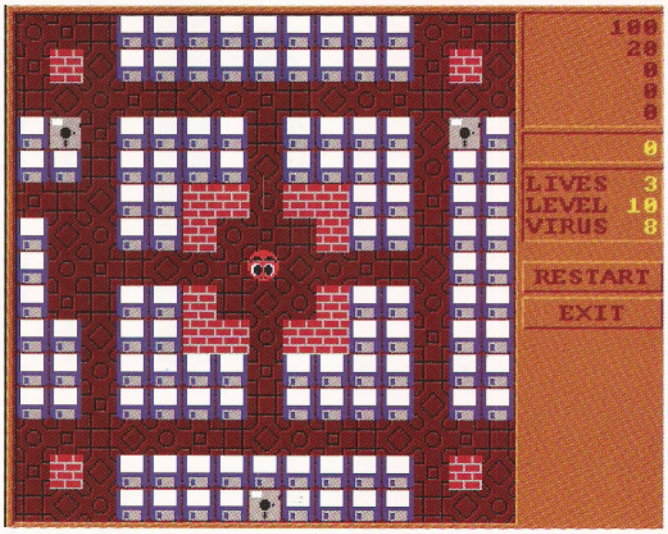
Getting Started

Hitting F3 from the main menu will install *Zoom!*. Leave the mouse alone for about 10 seconds and you'll notice the mouse pointer will disappear – *Zoom!* has installed properly. Moving the mouse will make the pointer reappear.

Zoom! may be terminated by pressing Left-Amiga, Ctrl, and Esc simultaneously.

If you wish *Zoom!* to be installed automatically every time you boot, do the following. Boot with your Workbench disk. Enter the CLI and type in this short command sequence (next page):

SYS



You've got to destroy the numerous viruses infecting your sysop's hard disk by booting 3.5-inch floppies at them.

PROGRAM: ANDERS BJERIN
FILES: SYS, SYS.DOC, SYS_HIGHSCORE.DAT, SYS_SOUND1.SND... SYS_SOUND7.SND

You've been assigned the demanding task of cleaning your sysop's hard disk of viruses. These nasty creatures have infected all data sectors, and you have to wipe them off sector by sector.

To eliminate a virus you simply kick a disk at it. But beware, viruses kill on contact. It's important that you are fast and kill viruses before they start destroying your 3.5-inch floppies.

There are 50 different levels (sectors). Each level becomes increasingly faster. Viruses become smarter and start to hunt you on higher levels. Numerous types of virus will attack you; each employs a different tactic.

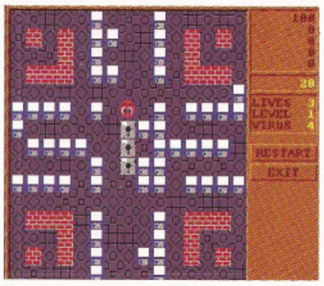
Other items appear from time to time which aid you in your quest. A red cross provides you with an extra life; a telephone modems you to the next sector; a copy of *Lattice C* boosts your speed and a question mark gives a mystery bonus. Happy virus hunting!

Getting Started

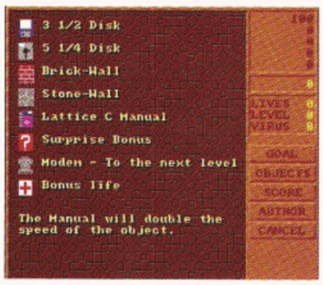
Press F8 to get *Sys* started. A list of options will be shown to the right of the screen. Click on Play to begin. You will be asked to enter your name (three letters). Press Return or point and click at OK to proceed. The game will start. Remember to move the mouse to the left side of the screen. If you don't, the program will remain in pause mode.

From the Set-Up option which appears in the same menu as Play it's possible to alter the default control keys. The default keys are almost all assigned to the numeric key pad:

Up – 8	You can also use a	F1 – Makes you move continuously
Right – 6	Joystick which	F2 – Stop after every step
Down – 2	should be attached	F6 – Music on
Left – 4	to port 2. Other	F7 – Music off
Stop – 5	controls available	F10 – Start at level 10
Kick – space	to you include:	



You'll gain a bonus by grouping the three silver 5-inch floppies that grace certain sectors.



Items like a red cross, 'phone and copy of *Lattice C* can be collected to aid your battle.

CD DF0:C
COPY COPY RAM:
COPY CD RAM:
(remove Workbench disk and insert Coverdisk)
CD DF0:ZOOM!
COPY ZOOM! RAM:
(remove Coverdisk and insert Workbench or boot disk)
CD DF0:C
COPY RAM:ZOOM! DF0:C

Now edit the STARTUP-SEQUENCE on your boot disk. Add the line ZOOM! somewhere before the instruction LOADWB.

FSDIR

PROGRAM: CHRIS HAMES
FILES: FSDIR, FSDIR.DOC, CLI

If you get sick waiting for your floppies to produce a directory – whether it be the AmigaDOS DIR command or the open file requestor in your favourite program – here is something that is guaranteed to speed things up and make you feel well again.

FSDir, short for *Fast Smooth Directories*, patches AmigaDOS so that the speed at which directories are delivered is greatly increased. In addition, the patch cuts down the grinding of the drive head as it moves from track to track.

Getting Started

FSDir is automatically installed when you boot with the Coverdisk. Pressing F6 from the main menu will simply show you the help file.

You'll benefit most from *FSDir* by forcing it to install itself whenever you boot with your startup disk. Details of doing that follow:

- Run a text processor of your choice. When requested to load a file, insert your boot disk and load in the STARTUP-SEQUENCE file. You'll find it in the S drawer.
- Somewhere before the LOADWB command enter the following: DF0:C/FSDIR.
- For the above to work you must copy FSDIR into your C directory. One way of doing this is to start up with your Workbench disk, enter the CLI and type the following:

CD C:
COPY COPY RAM:
COPY CD RAM:
(remove Workbench disk and insert Coverdisk)
CD DF0:FSDIR
COPY FSDIR RAM:
(remove Coverdisk and insert boot disk)
CD DF0:
COPY RAM:FSDIR DF0:C

- Exit the CLI, insert your boot disk in the drive and reset the Amiga to finish the process.

RAPS

PROGRAM: ALAN SMITH
FILES: RAPS, RAPS.DOC

Alan Smith has devised a cunning alternative to the classic board game Draughts. *Raps* is carried out on a four-by-four board, and is played by one or two players. Each player has four pieces.

The objective is to get one of your pieces to the other end of the board, or to get rid of all your opponent's pieces. There are three types of move:

- A move to an empty adjacent square in any direction.
- A jump over one of your own pieces to a blank square. Again, any direction is permissible.
- A take. The same as a jump, but over an opponent's piece. An opponent's piece is removed once it has been jumped over. If a take is possible it must be performed.

Getting Started

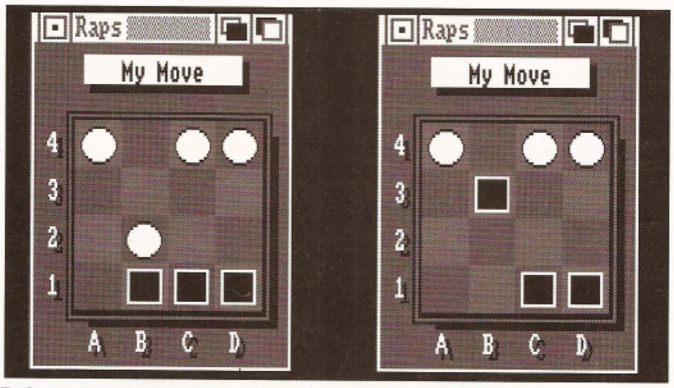
From the Coverdisk's main menu press F7. Alternatively click on the file RAPS (inside the RAPS drawer) from the Workbench. A window will appear showing a four-by-four board just waiting for something interesting to happen.

By pressing and holding the right mouse button you can access numerous menu options.

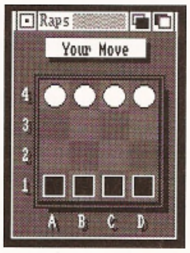
MODE lets you determine the play mode – human v computer, computer versus computer or human versus human. Choose computer versus computer to get an idea of how to play. Choose human versus human to play a game or two against a friend.

LEVEL enables you to pick game difficulty when playing against the computer. Six is hard, one is easy.

Click on the piece you want to move then click on the square you want to move to. You will be told if you try an illegal move. If you are in a position to take but don't, you will be given a choice of moves one of which you must make.



Before and after a take. A take is similar to a jump, but occurs over an opponent's piece. Like draughts, an opponent's piece is removed once it has been jumped over.



***Raps* is played by one or two human players on a four by four board. Pieces are represented by squares or circles. The initial board layout looks like this.**

WORKBENCH HACKS

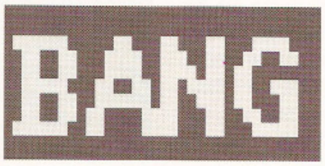
Dare you enter the decidedly dodgy domain where dog-eared desperados display their dubious discoveries? Please note: Workbench Hacks can only be run from the Workbench.

Press F10 from the main menu and then double-click on the drawer WORKBENCH HACKS to get to them.

BANG!

PROGRAM: M HORN
FILES: BANG!, BANG!.DOC

Simply double click on the BANG! icon and try to use the left mouse button. Err, that's it. To stop the cacophony, click on the close gadget of the BANG! window and it'll go away.

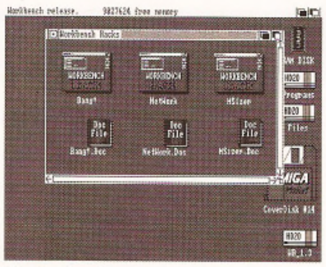


Explosive fun with M Horn's own hilarious Workbench hack.

MSIZER

PROGRAM: KHALED MARDAM-BEY
FILES: MSIZER, MSIZER.DOC

Meet YAUP; Yet Another Useless Program. Actually that's a lie. *MSIZER* could well be the first useful Workbench Hack to appear on the *Amiga Format* Coverdisk. Anyone who has access to a Sun workstation may well marvel at the manner in which it's possible to resize windows from any corner of the window. Well, with *MSIZER* you can resize Amiga windows from any corner. So there you are, a simple useful hack. Press Ctrl and the left mouse button while the pointer is resting over any corner of a window. While holding down the buttons move the mouse in any direction. Let go the buttons when you're done. Tadaaa! Resized window.

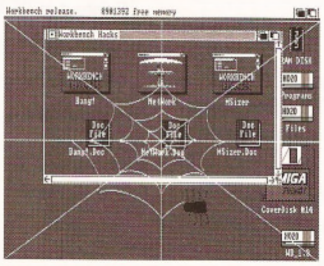


Khaled's hack lets you resize Amiga windows from any corner Sun workstation-style.

NETWORK

PROGRAM: FRIDTJOF SIEBERT
FILES: NETWORK, NETWORK.DOC, NETWORK.HANDLER

Hmmm... definitely not one of the most useful hacks to have appeared. *NetWork* simply creates a spider's web over your Workbench screen. Somebody somewhere might find it invaluable though. Please write in with suggestions to *Amiga Format*, 30 Monmouth Street...



The net's closing in on you fast. There's nothing to do about it but run another program...

AMIGA FORMAT DISK EXTRA

USING YOUR FORMAT DISK

IMPORTANT! Before using your *Amiga Format* disk, you should make a back-up of the master disk as soon as possible.

BACKING UP YOUR DISK

For many reasons, it is important to make a backup of the Coverdisk as soon as possible. Copying the disk may sound like a complicated task suitable for techno-buffs only, but it is surprisingly simple provided you read the following instructions carefully:

1. First, turn on your machine and load Workbench. Once the Workbench screen appears and the disk-drive light goes out, remove your Workbench disk and insert our Coverdisk.

2. Next, click once on the Coverdisk icon and then press the right mouse-button and the Workbench menus will appear. Now, while keeping the right mouse-button depressed, move the mouse pointer over to the 'Workbench' heading and a menu will drop down. Move the mouse pointer over the 'duplicate' menu option and then press the left mouse-button.

3. After a few seconds' disk access, the Workbench DiskCopy tool will be loaded and run. Now just follow the on-screen prompts and your *Amiga Format* Coverdisk will be copied to a backup disk. When the machine asks for the destination, insert your blank disk into the drive. Further instructions are in the user's guide that comes with your Amiga.

USING THE PROGRAMS

All programs on the *Amiga Format* disk are specially set up to make them as easy to use as possible. If you can use the Amiga's Workbench then you can use our Coverdisk! If you do have problems with a program, full instructions on loading and using the programs are included in Disk Extra and these should get you up and running. If you still have problems, you should read the documentation file (.DOC) that is included with every program. To run any of the programs on this month's Coverdisk, follow a simple procedure: unless specified differently within Disk Extra, just double-click on the program's icon on the Workbench and it will load and run. Full details on how to use the programs once they have loaded are inc-luded as a documentation (text) file with the program.

To display a documentation file, just double-click on the appropriate .DOC file and a window will open containing the file's contents. Pressing the space bar will advance the text a page at a time.

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DISK EXTRA HOTLINE

0225 765086
Between 4pm and 6pm on weekdays only

Flummoxed by files? Dumbfounded by disks? Paranoid about programs? If you have a problem with the disk – and you're sure the disk is in full working order – phone 0225 765086 with your query. State the model of your machine and anything you've got attached to (or plugged inside) the computer. For problems with disks before Issue 5 phone *Amiga Format* on 0225 442244.

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Brief description ....
....
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Checklist **(please tick):**

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- ☐ Name, address, machine type written on label
- ☐ Disk certified virus free

IMPORTANT Please sign this declaration:
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Signed ....

Date ....

IS YOUR DISK FAULTY?

We have done our best to check that the programs on the *Amiga Format* Coverdisk are simple to use, error-free and have no known viruses. However, we cannot normally answer telephone queries on using the software, and we do not accept liability for any consequences of using the programs on the disk.

If your *Amiga Format* disk is faulty – and out of the tens of thousands duplicated, some are unfortunately bound to be – you should send it back for a free replacement within a month of the cover date to:

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PC Wise Ltd.
Unit 3,
Merthyr Industrial Park,
Pentrebach,
Merthyr Tydfil,
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CF48 4DR

If your Amiga refuses to accept the disk, try using the DISK-DOCTOR utility on your Workbench disk to rescue it before sending it off for a replacement. Full details of *DiskDoctor* can be found in the user's manual that came with your machine.

WE WANT YOUR PROGRAM

If you've got any programs for the Amiga which you think other readers would find useful, interesting or amusing, we'd very much like to know about them.
1. Make sure your program is foolproof to use. 2. Create a file called README.DOC on the disk which explains exactly how to use your program. 3. Fill in this form, sign it, and send it without delay to: Coverdisk Software, *Amiga Format*, 30 Monmouth Street, BATH BA1 2AP. You could win a share of up to £800 prize money for the best programs each month.



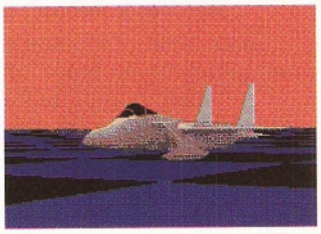
pd UPDATE

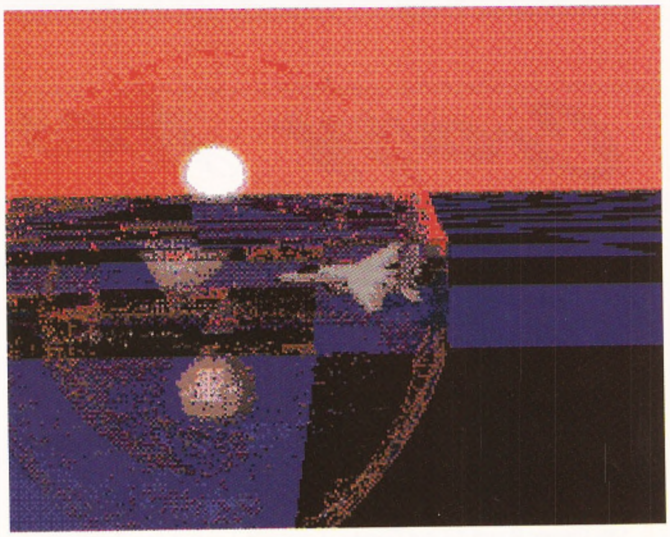


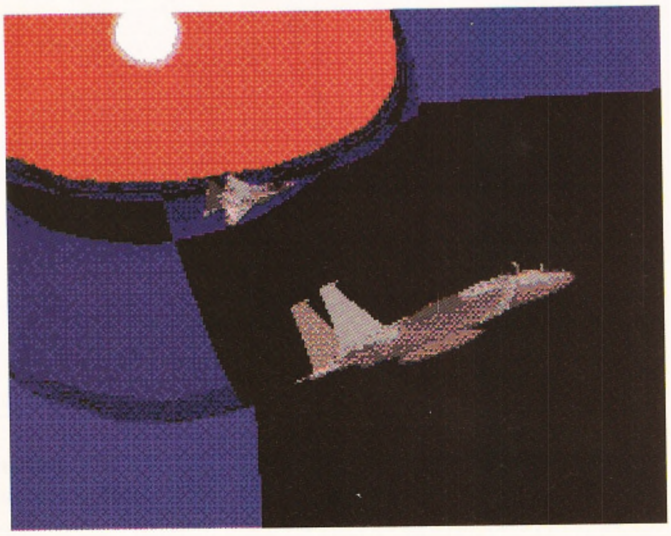
Continuing a veritable orgy of PD coverage, we now look at all the latest and greatest new stuff. **RICHARD MONTEIRO** takes us on a trip around the libraries...

FANTASY FLIGHT - Senlac

Another of Senlac's licenseware disks. The prolific FRP Productions are responsible for the impressive animation on this disk. An F-15 swoops around a fantasy landscape. As you can see from the sequence of images, FRP are extremely proficient at their trade.







TBAG 40A/40B GTS

The new-look Tampa Bay Amiga Group's (TBAG) PD compilation disk has just hit town. A new user interface called Activator has been designed to make program selection as simple as possible. Activator is perfect for both CLI and Workbench files as programs can be executed, and help files can be viewed and printed, without the need for flipping from one environment to another.

Activator does have an unfortunate side effect – it gobbles over 150K of memory. On a 512K machine this can prove critical. Still, you don't have to have the menu running all the time.

DISK A

ANYMONTH

A simple perpetual calendar program with which you can print a calendar year or simply browse through the months. Only works for years after 1592. It doesn't work for years prior to 1593 because, during that period, the calendar had 11 days eliminated and all sorts of modifications made to the months.

DISKTALK

This is very silly – and a bit suspect too. It's another of those jolly Workbench hacks. *DiskTalk* will monitor disk activity and whenever a disk is ejected or inserted it will play one of two samples. You supply the desired sounds.

FENSTER

Have you ever wanted to save a screen or window as an IFF picture, print a screen, change the limits of a window, alter the IDCMP flags of a window, refresh gadgets, or move a window to the background? Of course you have! And this utility lets you do all the above and more.

PCOPY

An AmigaDOS disk copier. It's fast, multitasks and attempts to recover corrupted data. That's really all there is to it.

PT

Simply a replacement for the ubiquitous TYPE >PRT: <filename> command. It has one major advantage: it skips over page breaks. In addition, *PT* numbers pages and prints the filename at the top of the first page.



TBAG put the kettle on, TBAG put the kettle on...

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Demos CORNER

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DIGITAL CONCERT 3
Riverdene PDL
Flash Music

A sampled sonata you'll either love or loathe. The track is over 12 minutes long and features chords, riffs, beats, phrases and just about anything else that can be sampled from numerous dance chart hits. The production and mixing is first class. *Digital Concert 3* by Flash would make a sensational dance track if it was ever released on vinyl.

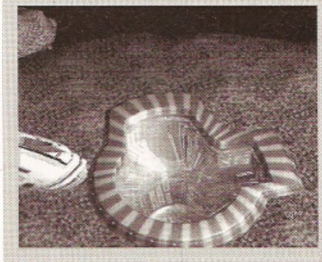


Flash Productions gunning for a number one with Digital Concert 3.

MUSIC DEMO ONE
Crazy Joe's 679

Five *SoundTracker* compositions by James Goddard grace this disk. The tracks include China, Metallic, Exodus, Nightmare and Paradise. Well worth a listen.

AGATRON SLIDESHOW 6
Amiganuts 603



Tobias Richter, master pixel punisher and fanatic *Star Trek* enthusiast, has come up with yet another fantastic disk crammed with stills from *Star Trek*. Unlike



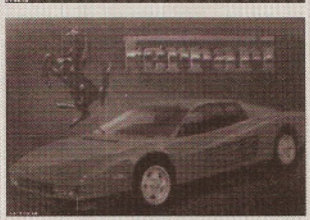
Tobias' previous work, these images are in overscan HAM interlace. And none are digitised. The results boldly go where no pictures have gone before. Add this disk to your collection now!

DIGI WHEELS DEMO
Sector 16 Disk 72

Fast car lovers will drool over Sector 16's mini-demo consisting of four still images of very fast, very expensive, very desirable street machines. Appropriately, Yello's *The Race* plays in the background all the while.







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SNOWFALL

Well, there isn't much to say about this one. It isn't big and isn't clever. *SnowFall* loads a picture and lets snowflakes settle on images in any colour except black.



Less than 200 days to Chrimble. Get those greetings in first.

STARBLANKER

Yet another screen blanker. When the preset timeout expires, *StarBlanker* replaces your current display with one of two different scrolling starfields.

ZAP

You can examine and modify binary files in hexadecimal and ASCII mode using *Zap*. The file being edited is kept in memory, so moving through the file and searching is very fast.

DISK B
SCENEGENERATOR

There's not a lot on TBAG disk 40B; *SceneGenerator* is just one of two. As the program's name suggests, it creates fractal landscapes. You have some control over what is produced, but the real magic is done by the program. The results are excellent as you can see from the images on the page.

TBAG ANIMATION

The TBAG animation was created and animated with *Sculpt-Animate4D*. The animation is 90 frames long and was rendered in Photo-Raytrace mode. Rendering took one and a half days using an Amiga 2500. As you might imagine, it's very pretty but useless.



Create worlds of your own with the fractal *SceneGenerator*.



QL EMULATOR
Softville
USPEC 13

Fans of Clive's ill-fated QL will relish Rainer Kowallik's attempt at producing a working – and let's face it, very cheap – QL emulator for the Amiga. For those who want to read nothing more of Sinclair's mark III door stop, skip the next few paragraphs.

Emulation is carried out entirely by clever software routines. Virtually everything that should work works. The screen, keyboard, devices – even SuperBASIC – run without hitch most of the time. No emulator is infallible, but Kowallik's conversion of QDOS is better than many.

The emulator was created from a disassembly of the QL JS-ROM, so it should be as reliable as the JS-ROM. In short, not very. That's a lie... the JS-ROM is reasonably stable. QL screen emulation is handled by the Blitter, which means screen updates happen blindingly quickly and cost little CPU time.

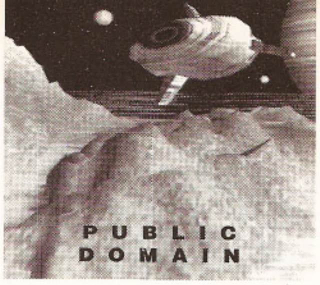
Apart from the MicroDriVes and the NETwork, all standard QL devices are implemented: CON_, SCR_, PIPE_, SER1, PAR, FLPn_. The RAM disk and system clock operate also.

As if that wasn't enough, a JANus device driver has been implemented which allows you to read and write to hard disk via the IBM Sidecar. A FLoPpy driver provides a similar service. To top it all, the Amiga mouse pointer is integrated into the emulator. An excellent utility; one that is bound to appeal to propellerheads.

MESSYDOS
Nova

You're doubtless aware of utilities like *DOS-2-DOS* and *CrossDOS* which, apart from commanding extortionate fees, let you transfer





data files between the Amiga, Atari ST and PC. How about a utility similar to *CrossDOS* et al but without the price? It could only happen in the public domain. The unfortunately-titled *MessyDOS* by Olaf Seibert is such a system.

Called *MSH* (Messy File System) for short, Olaf's system makes it possible to use PC disks in your Amiga just as if they were regular Amiga disks. Since the ST also reads and writes PC disks directly, you can also use ST disks in your Amiga.

There's very little to say about *MSH*. Insert a PC disk into the Amiga disk drive and you can read what's on there already or write information to it. The system is simple yet effective.

UGA GAMES 4
Softville UGAM 4

From time to time those kind and benevolent beings who call themselves the United Graphic Artists (UGA) compile a disk with all sorts of wonderful PD material. UGA Games 4 is one of their latest and on the disk you'll find the following games:

SNIFBURK





It's the zany zit-zapping zenzation that's zweeping the nation. Fail to clear up the spots quickly enough and Snifburk's face will explode all over the screen. It's disgusting.

This ranks as the silliest game to have appeared so far this year. And it comes from France.

The idea is simply to splat zits – or pustulas as they're known in this game – that grow at an alarming rate on poor Snifburk's face. You're armed with a bottle of Biactol which you must aim and squeeze at the growing zits. Unfortunately the bottle empties far too quickly for comfort; and the effects of having a faceful of muck can be devastating.

Can you make it into the pustula busters hall of fame? Do you really want to?

XENON III

Not a follow-up to the Bitmap Brothers' best-selling blaster, but simply Harry Hart's interpretation of what the sequel to *Xenon II* should look like. And very good it is too, all things considered.



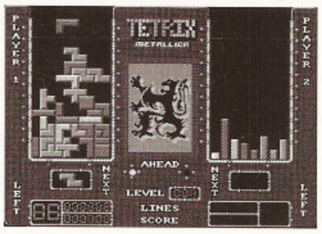
Harry Hart, best known for his fantastic animations, has tried his hand at writing a shoot-em-up using Palace's *SEUCK*. The results are superb.

The idea is simply to shoot everything that gets in your path and avoid anything that can't be destroyed. The sampled effects that accompany the game are really polished. Most amusing and realistic is the cat wail that accompanies the feline sprite.

Astonishingly, *Xenon III* is written using Palace's *SEUCK*. Without doubt the best *SEUCK* creation to date.

TETRIX METALLICA

No surprises here apart from the polish and playability of the *Tetris* clone. *Tetris* is *Tetris*. Shapes fall from the sky; you have to position them so they form straight lines at the bottom of the screen. Very simple, very addictive



A very neat *Tetris* clone that looks and sounds better than the original yet manages to maintain all the playability.

BOING! THE GAME

Remember *Boing! The Demo*... the big checkered bouncing ball? Yep, that one. *Boing! The Demo* was written long ago by three of the original Amiga gurus: Sam Dicker, Dale Luck, and RJ Mical. *Boing! The Game* was written to celebrate the classic demo and has little to do with bouncing balls. Extremely playable.

TOP TEN PD GTS Titles	TOP TEN DEMOS 17Bit Disk Numbers
1 The All New Star Trek	1 Intros 35 (644)
2 Video Applications	2 Rubadubdub (604)
3 Space Trilogy	3 The Run (591)
4 TV Graphics	4 Predators Megademo (588/589)
5 Avoiding the CLI	5 Time Circle Musax (662)
6 DTP Accessories	6 Intros 37 (659)
7 Graphics Management	7 Fraxion Horrorshow (657)
8 Learn & Play	8 Maria Whitaker Slideshow (671)
9 K/O The Virus	9 Viz Calendar (645)
10 Education With The Amiga	10 Digital Concert 2 (576)

Demos CORNER

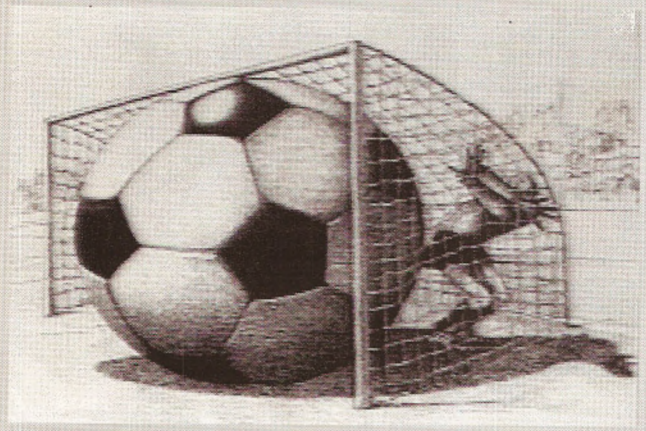




The beginning and end of Golem's *Gate Slideshow*.

GOLEM'S GATE SLIDESHOW NBS D314

Lots of pretty hand-drawn pictures from the West German programming crew Golem to pore over. Why it's called the *Gate Slideshow* is anyone's guess.



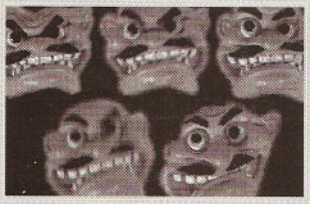
Even Shilts would have a hard time stopping that one.

SERRE SLIDESHOW 1
Nova

That manic French illustrator Serre has enthralled audiences for ages with his amusing cartoons that have appeared in countless journals across the puddle. You can now see what the fuss is all about by viewing some of his masterpieces in digitised format on the Amiga. Sadly the scanned images are a little blurry, but not enough to detract from the humour.

SILENTS MEGADEMO
PD-Soft 464

Some of the most imaginative scrolling messages so far appear in the Silents' collection of demos. It's not the content of the messages that's impressive (it never is), but rather the way in which they move. The vast number of demos are all very different. Some are excellent like the contorting rubber face which is accompanied by sampled speech. Others, like Acid Syndrome, are tired subjects.



Bob Wade trying to explain the complexities of nine-plane parallax scrolling, collision detection, barrel shifting, copper lists, and the difference between fat Agnus and really obese Agnus. Not doing very well, really, is he?



Tools of the Trade

Being able to program fluently in six languages is not the end of the story. Languages are just the bricks in the software house (ahem!) and this article is about the cement holding the whole lot together, the forgotten utilities that so many programmers just take for granted.

Programmers are like ketchup: they come in many varieties. Some write demos, some games, a few even write serious applications, but every programmer is only as good as the tools he uses.

Consider for a moment the *Personal Computer World* (and other) benchmarks. The skills of individual programmers to produce efficient code are deliberately removed, leaving the language standing on its own two (metaphorical) feet. Taking nothing away from the benchmarks, their accuracy must be questioned: first, they were contrived to be simple; and second, they can never properly simulate real applications, especially the increasingly complex ones seen today.

Moreover, most new programs rely on the skills of not just one, but many individuals. Compiled software relies on the speed and compactness of the libraries provided by the compiler manufacturer. In many cases the speed of the libraries relies on the efficiency of the operating system – which in turn is limited by the speed of the hardware. This pyramid effect has one result: unless programmers are prepared to "hit the metal", the overall quality of the finished product relies on many factors beyond their control.

It isn't all black, though. If things were as cut and dried as they at first appeared, all software would be slow, bland and unimaginative and we'd all give up and go home. A quick glance at almost any Amiga package reveals that this, thankfully, is not the case.



Illustration: Sally Gaden

Following on from last month's in-depth look at programming languages, a peek at the tools that programmers use with MARK SMIDDY.

Programming Tools: Art Attack

When it comes to games, what is the first thing everybody questions? Graphics. The gameplay, design and sound all come later – but graphics are what hits you in the eye. Most programmers (or software houses) now employ freelance artists to produce the graphics for them – and most use one of the standard art packages like *Deluxe Paint*.

The advent of *DPaint 3*, with brush animation, has left it as probably the brand leader in this field, and enough has been said about it already to avoid reiterating the praise here.

However, there are cases where *DPaint* and others can't help. Imagine an image scanned by DigiView, or even one grabbed from moving video by, say, SuperPic. There is no doubt both of these can produce some excellent results – but there are times when improvement is necessary. Perhaps, also, graphics have been produced on the ST and need converting to the Amiga. What do you do to process these images?

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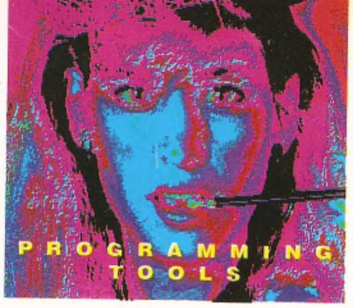
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Progressive Peripherals
£49.95

Pixmate is an image processor – a comprehensive set of tools for hacking and cleaning images. So comprehensive is it that it is impossible to find a function it lacks. Its main ST competitor is PD – but *Pixmate* packs almost all the equivalent functions into a single requester...

BELOW, TOP: A HAM pic, but now in only 32 colours via *Pixmate*. Spot the difference

MIDDLE: Now ready to go to the ST, but it's lost something.

BOTTOM: This Sanka pic has been hacked to half resolution.

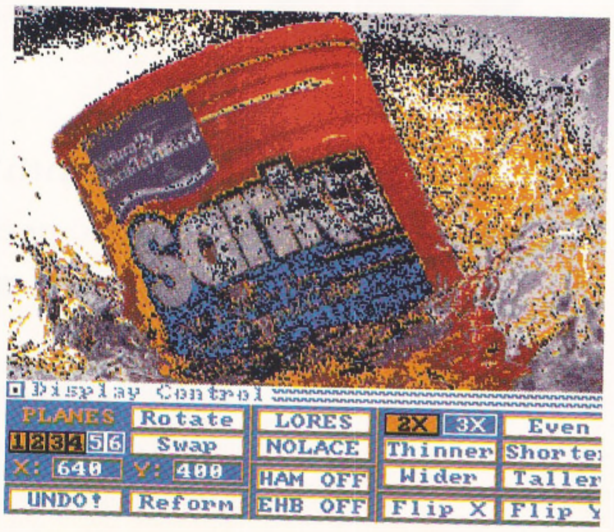




This is a tool no serious artist or programmer can afford to be without. Somewhere within *Pixmate* there is a function to do just what is called for – you may never find it, even after consulting the manual, but it's fun trying!

For serious applications, *Pixmate* is a boon. In the image processing lab this is a tool which could rival systems costing thousands. It is not only cost effective, but also truly powerful.

As an example, *Pixmate* shows its sheer muscle by converting by 4096 colour DigiView masterpiece into an acceptable image directly portable to the ST in under 3 minutes. It can even take files from the ST too – in Neochrome format – although why anyone would want to is beyond the writer. Similarly, hacking bitplanes from existing graphics can help programmers conserve precious memory – in many cases without adversely affecting the quality of the original work. The image can be saved in either RAW or IFF – (the palette saved separately) thus easing the task of incorporating them in binary files – er, games. These features will also be appreciated by serious programmers who might want to convert images for use in their Intuition interfaces.



For less serious use, *Pixmate* can provide hours of entertainment. False colouring will be enjoyed by abstract artists experimenting with modern art – and just as much, it can decipher cloud formations over Great Britain. Every serious Amiga user *must* have this – of that there is no doubt.

ADVICE PROGRAMMING TOOLS SOUND

In the world of games, sound quality has become almost as important as good graphics. More than ever before, gamers expect to receive an audible feast as well as a visual one – the simple fizzes, pops and bleeps of yesteryear no longer suffice. Even the complex audio hardware offered by the Amiga is only as good as the information it is supplied with.

By way of achieving the level of realism demanded, programmers have had to look at (and listen to) the real world. Recordings are made, sampled by sophisticated hardware, then edited and mixed down until sounds mimic the outside world.

Although the result is often nothing like the original, samples find their way into everything from musical scores to arcade games. They'll be giving them away with Cornflakes next. A great example of Amiga sound sampling and manipulation is Aegis' critically-acclaimed *AudioMaster II* – now fortunately bundled with Omega Projects' highly-regarded Sound Trap 3 sampler by Lytham-based Bytes & Pieces:

AUDIOMASTER II
Aegis £59.95

The future of *AudioMaster* seems uncertain, given current rumours of the demise of Aegis Development. With the company's long string of excellent products, this would be a very great shame. *AM2* was no exception, welcomed by sound freaks and revered by critics everywhere.

It comes on a single unprotected disk (trusting, these people) with a well written manual. And, unlike some sample editors, *AM2* can work in mono or stereo, is compatible with both parallel and joyport hardware and works with the whole family of 68000 CPUs. The latter is important because the maximum sampling rate – and, therefore, overall quality – is affected by the speed of the CPU.

Also, like many of the products mentioned here, *AM2* is so good it is difficult to do it full justice in a short resume. Merely listing its wealth of features would be enough to fill a page. For instance, *AM2* has a VOX (voice operation) feature of the type often used by DJs. With this in operation sampling can be started as soon as a signal appears at the source. This is useful for recording short



***Audiomaster II* in action. A close zoom reveals a great deal of detail on this mono sample.**



Getting everything ready to mix two waveforms together. The results can be unpredictable.



Zooming in closely on a section of a dual-channel mono sample.

duration single events: cymbal clashes, sneezes, gunshots and the like. This can be disabled, of course, and sampling triggered by the mouse.

Another problem with digital sampling is bias. Many samplers add their own signal to the baseline causing the sample to start and finish off zero. This is a problem especially for musicians because it can result in a click or pop at the start and end of the sample. *AM2* can be asked to correct for this bias, either manually, or automatically if the manual bias limit is exceeded.

As far as editing is concerned, there is little imaginable that *AM2* cannot do. Any part of the signal can be swapped, cut, chopped and remixed with other parts in a variety of different ways. Special effects like echos, fades and stereo pans are a doddle to achieve too.

All this is perfectly possible with mono samplers because each channel can be sampled in turn. Conceivably the two stereo signals could be mixed and added to two more, giving a chorusing effect.

Considering the speed and sheer ease of use of *AM2*, the competition will have to come up with something very clever to beat it. It could be bettered by a 12-bit or 16-bit sampler but that would not be compatible with the existing 8SVX IFF standard.

AM2 saves and loads either RAW or 8SVX. So it should be compatible with all other Amiga sound software – such as *Sonix, Soundtracker* and the numerous PD sample players. Of course, it can be used on its own to produce totally new samples or edit existing ones from other systems. But to get the best out of it, it should be coupled to some hardware – and Sound Trap is pretty tough to beat at £59.95 for the special bundle from Bytes & Pieces.

SOUND TRAP 3
Omega Projects
£37.50

Claimed to be the first sampler on the market to offer a printer through-port suitable for all Amigas, with a gain control and on/off switch, all in a casing scarcely larger than a box of Swan matches! Unlike many claims, this one is accurate – and the equipment boasts remarkable quality too.

The ultimate polish of any sound sample relies on many things. The software is important for editing and final adjustments – but if the hardware is poor, the quality will inevitably suffer. As ST3 proves, size is not important and good things do come in small packages.

The unit is based around a recent VLSI 8-bit stereo sampling chip, although in its present form ST3 only allows for mono samples with rates approaching an impressive 40Khz. Considering the adult human's audible bandwidth is, realistically, only around 20Hz-15Khz (young children manage as high as 20Khz) this is quite sufficient. Overkill it is not, since the minimum sampling rate must be at least twice, preferably three times, the maximum frequency of the sound or distortion will set in.

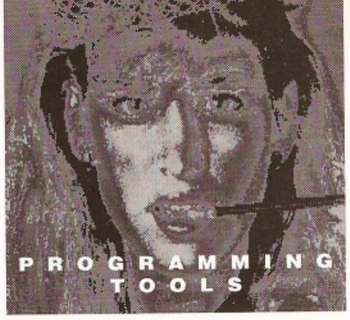
ST3 only suffers one problem, which is endemic to Amiga 500s, not to the sampling unit. Like many parallel samplers, it draws its supply from the Amiga. Even though Commodore claim supply currents as high as 500mA at 5V, some 500s suffer a voltage drop at low currents and can't power certain chips.

Now this problem has been identified, all ST3s are tested before release and the borderline chips replaced. At the planning stage is a kit version of ST3 with an external power source, eliminating the flaw. The ST3 with trimming tool (screwdriver), lead and manual is a steal.

THE INTERFACE
PROGRAMMING TOOLS

Writing an Intuition-based application is a complex, time-consuming and tedious business at the best of times. However the design of the user interface can make the difference between an excellent program and a mediocre one.

Time after time, reviewers comment on the poor use of Intuition which subtracts from the otherwise excellent package that confronts them. It is vital to all users – from the neophytes to the experts – that communications between them and the software should be obvious and simple; no matter what the intricacies of the the actual system might be.



This first line of defence is also one which programmers find most difficulty with. Designing the display is a task in itself, without wrestling with integrating the user's interactions with the program. Even though Intuition (as Commodore are keen to point out) does a lot of the hard work, the fiddling details are still left to the programmer. If they were not, applications would lack individual character.

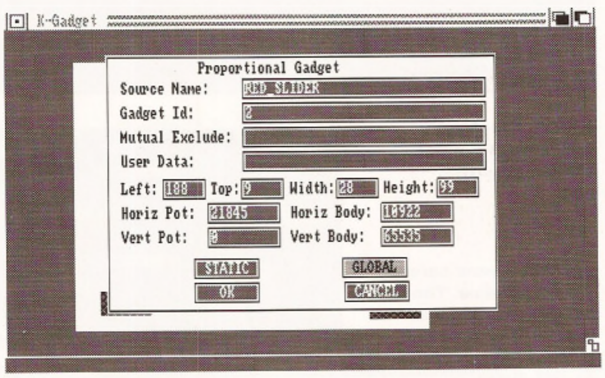
Once again, the utilities come to rescue in the shape of two packages, one aimed at the low end of the market, the other at the high end. Both have the same goal in mind: remove the need for programmers to worry about designing interface code.

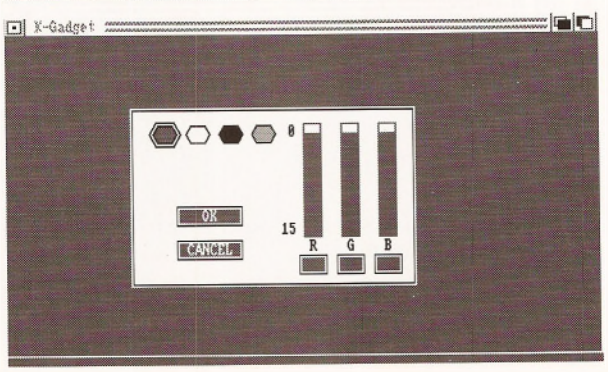
These utilities allow programmers to experiment and test all the gadgets, windows, requesters and so on afforded by Intuition as they might be used in the application without the bother of having to write the code. When the programmer is completely satisfied with the set-up, the program generates the source code necessary for Intuition. It should be made clear though: these programs do not provide the drivers to interface to the code, just the tedious structures required by Intuition – a chore which should not be underestimated.

BELOW, TOP: Editing the settings for a proportional gadget with *K-Gadget*.

BELOW, RIGHT: And here it is in full!

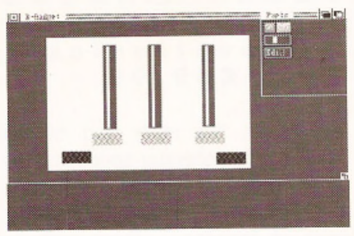
BOTTOM: This is the the supplied example.





K-GADGET
Kuma £29.95

At the price, *K-Gadget* is squarely aimed at the low-cost end of the market, but that should not be taken as meaning that it is deficient in power. It merely lacks the frills of its pricier competitor, *Power Windows.* The package is supplied on one unprotected disk with a 70-page, ring-bound manual. Like many Kuma



products, although the documentation may look low-cost a lot of thought has been put into its authoring and design. The largely tutorial-based text

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(Formerly 'Pools Predictor' by Corwen Computer Systems)
The Computer Football Pools Predictor

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THE GRAPHOLOGIST

This program is a must for anyone interested in analysing their handwriting, or analysing other peoples. It is also very useful for analysing prospective employees handwriting. To use the program, a sample of handwriting is obtained, perferably in ink. From the main menu of the program you will be prompted and guided to examine each detail of the sample. You will then be taken through deeper and deeper sets of sub menus, all prompting you for relevant details of the writing, and the points to watch for, and add to the file if applicable.

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We must however stress, that unless you are experienced in graphology, then we can in no way guarantee the accuracy of the information that the program provides. If you are an enthusiastic amateur or just curious, then this program could provide hours of entertainment, whilst teaching you the finer art of this fascinating subject.

The text within THE GRAPHOLOGIST was researched and written by a top London graphologist/criminologist James Woodward. The software was written by Martin Evans our consultant software writer.

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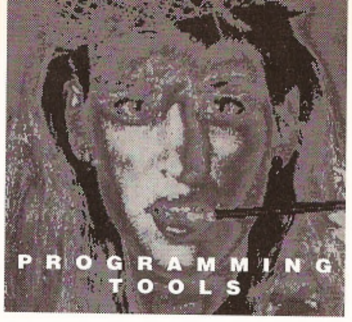
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is well punctuated with diagrams, guiding new users through every stage of producing a simple palette requester. The complete source and binary for this is also supplied by way of demonstration.

The main screen of *K-Gadget* consists of two windows. A design window where the gadgets are constructed, and a parts window where the gadgets live. In its current version, *K-Gadget* only supports Requesters containing: Boolean, Proportional and String gadgets. No support is offered for the construction of Windows or Screens; these are straightforward enough to code manually for the type of simple applications *K-Gadget* is meant for.

Constructing a new gadget is easy. First drag a new requester from the parts box and use the "handles" supplied to make it about the right size – fine adjustment is possible later. Next simply drag the required gadgets onto the Requester area, position and size them as before. Text and the attributes required for each application can be set from the program before the final source is generated. For fine-tuning of control design etc *K-Gadget* incorporates its own (simple) image editor.

Of the two source-code generators mentioned here, *K-Gadget* is the simplest to get to grips with. Its main limitation is its inability to produce source code in anything but C. However, since C is by far the most popular language for producing Intuition applications this should not pose a major problem.

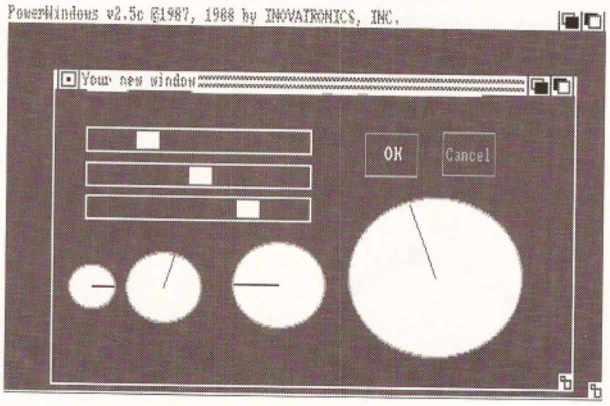
Also, the lack of a "test" facility is a nuisance. Intuition experts and programmers producing very large applications are advised to consider the more expensive *Power Windows*. Anyone experimenting occasionally with the system – especially beginners, thanks mainly to the manual – will find it easy to use and powerful enough for many situations.

POWER WINDOWS 2.5
Inovatronics
£69.95

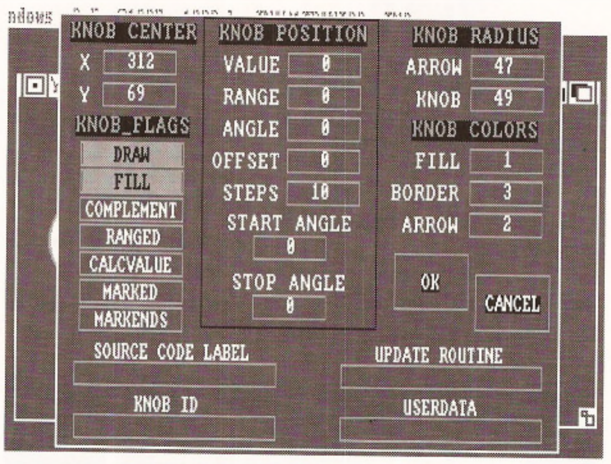
Represents the other end of the source-code generator spectrum. The good news is: for the price, the package offers a quite bewildering host of features – there really is nothing to touch it. Unlike K-Gadget, it produces source suitable for almost every language or compiler imaginable: C, True Basic, TDI Modula 2 and 68000 assembler to name a few. Now for the not-so-good news. Be under no illusions, *Power Windows* is meant for serious programmers only – something the manual states quite categorically. To this end, the all-too-brief 28 page manual concerns itself less with protracted tutorials on Intuition and more with the heavy metal driving this excellent WIMP-designing engine.

It is so packed with features it impossible to do it any real justice in a concise critique like this – we can only attempt to pick out a few of its more unique points. Perhaps it would be best to say if *Power Windows* can't do it, it probably can't be done.

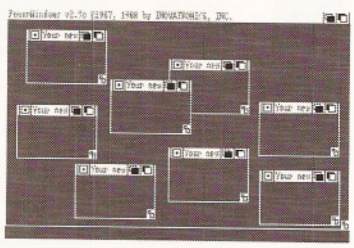
TOP: This selection in *Power Windows* includes those new "clock" knobs.



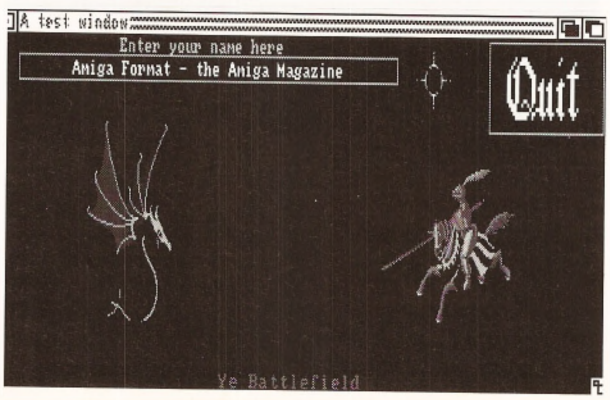
MIDDLE: Editing the attributes for a knob...



RIGHT: Creating windows is a cinch in *Power Windows*.



BELOW: A new screen, with a window. Those images are gadgets too, believe it or not!



Unlike its low-cost British competitor, every gadget works exactly as if it was in the application. It is also possible to create, edit and manipulate both Screens and Windows. As if that were not enough, an option is provided to "steal" screens and the like from other software!

In search of perfection, Inovatronics have gone further than merely producing a tool which can create interactive Intuition environments: they have produced extra gadgets Intuition designers left out. These include a completely new kind of proportional gadget resembling the circular control knob favoured by hi-fi freaks and a new pop-up menu.

There is bad news though; in order to do anything useful with these requires the purchase of Inovatools1, retailing at about the same price. Putting the proverbial carrot before the donkey as it were, these new gadgets can be tested within the program – and very nice they look.

There is little to fault in *Power Windows*. If any objection has to be raised, it would be that it could do better to welcome those new to Intuition – rather than fobbing them off. Also the lack of an image editor is something where *K-Gadget* scores even though IFF files can be imported, a limited editor would have been nice.

Power Windows is probably the best Intuition design tool around. However, limiting accessibility to those learning their way around Intuition is something which should be remedied. Nevertheless, experienced users should never be seen programming without it.

THE EDITORS
PROGRAMMING TOOLS

If utilities are the cement in the software house, editors must surely be the water in the mortar. A good editor is vital to a programmer. It is here the vital prose of code flows from the programmer's mind into the mind of the computer, stopping briefly at the compiler's house on the way.

But almost without exception, every interpreter, compiler or assembler is supplied with some editing facility; ranging from the simplistic to the sublime. Which begs this question: why do some programmers spend long hours developing more – surely this is a case of re-inventing the wheel?

The answer is, more or less, philosophical. The wheel is a finite design of infinite complexity. But why

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WHAT'S HAPPENING:

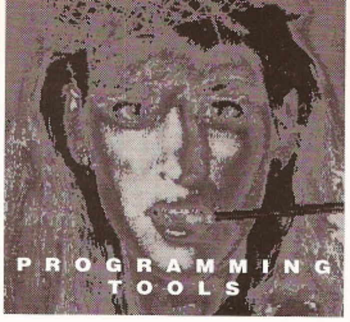
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not improve it by adding pneumatic tyres? Must it have spokes? How many spokes should it have? And who's to say what colour it should be?

Commercial editors have not been covered here – there are simply too many of them. For a change here's a critical look at the ones supplied free with the system.

Thanks to the following for their kind support:

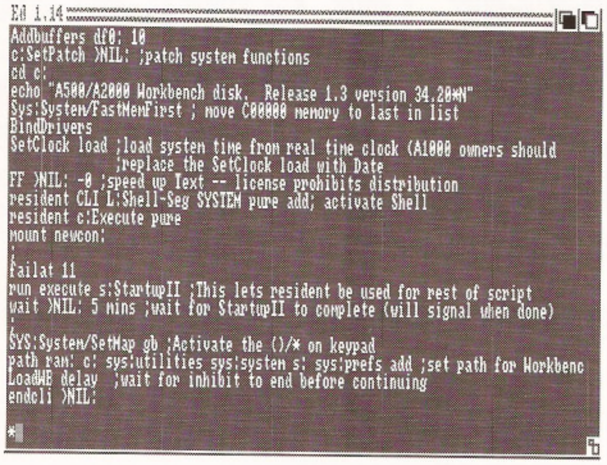
Bytes & Pieces 0253-734218 (AudioMaster II and Sound Trap)

HB Marketing: 0753-686000 (Power Windows and Pixmate)

Kuma Computers: 0734-844335 (K-Gadget)

ED Commodore Free

Almost everyone who has done anything with an Amiga has used *ED*. It is one of the two editors supplied with the early Amigas and, for most people, easiest to use. Workbench users frequently experience culture shock when they first use *ED* because it is very beginner-unfriendly. Even getting into *ED* itself can be a chore, because it takes a filename as a required argument.



ABOVE: Editing a startup script in MicroEmacs.

Once inside there are no menus, no close box – nothing. Every command – aside from simple movement – sent to *ED* is performed through a series of bewilderingly complex commands. It is even necessary to press escape (ESC) to put *ED* into command mode.

The reason for this is probably space. Intuition structures take up a lot of room in a program and space is at a premium on a standard Workbench disk. Though *ED* is not suitable for very large files it is powerful once the command set is learnt.

EDIT Commodore Free

Almost like a scaled down version of *ED*. It is a line editor of the type most often encountered on MS-DOS machines. Like *ED*, *Edit* has no Intuition menu interface – unlike *ED* there is no Intuition window either. *EDIT* communicates everything with the console. This may seem a little out-dated and out of context but it can be surprisingly useful.

Edit does not read the entire file at once and therefore can deal with extremely large amounts of source. This also has the added advantage that binary physically included in the file will remain unaffected by actions performed in *Edit*.

The best feature, though, is that *Edit* can be used remotely over a serial link to another machine – say another Amiga, a PC and ST or even (in theory at least) down the phone to a Z88! Total masochists could use this technique to write, assemble and test code over the phone. If the Amiga were to Guru ROM wack would take over at 9600 baud – possible with a fast modem...

MEMACS Commodore Free

An Amiga-ised version of David Conroy's public domain text editor *micro-Emacs* (sometimes written with a greek mu – *µEmacs*). Like *ED*, *Memacs* is a powerful full-screen editor but has the added advantage of menus. It comes on the Extras disk with Workbench 1.3.

By default, *Memacs* is unusual because it runs in a custom screen, although it can be configured to run in a Workbench window. More unusual still, in an otherwise feature-packed editor, line wrapping is not supported. Lines exceeding the 80 character maximum width are truncated at the edge of the screen and marked with a $. The extra characters are not lost, rather hidden from view. This does not apply to either *ED* or *Edit*.

Another advantage of *Memacs* over *ED* is that it's a multi-file editor – more than one source file can be viewed and edited at once and text swapped between them. All this power comes at a cost though – size. At over 62K, it's three times the size of either of the two standard Workbench editors.

Conclusions

At the end of the day, no tool, no matter how good it may be, is going to make anyone into a programmer who doesn't already have a natural bent in that direction or the necessary skills. All they can do is help make good software better by enabling existing programmers to exploit their abilities to the full.

Pundits might suggest, at this point, that with computers ever increasing in power, the role of the programmer is rapidly decreasing and very soon computers will actually be programming themselves. It is one possible future.

But for this author, at least, that is a somewhat fatuous remark. No computer, no matter how powerful it may be, will – in the foreseeable future – ever mimic either the human imagination or capacity for creative thinking. Until then, the role of programmers, and the tools they use, will slowly become more integrated in society than ever before. ■

HARD AND SOFT OPTIONS

Games programmers always program the hardware and applications programmers always program through the operating system. Why? The reason is simple – games programmers need the speed, and sometimes the special effects, that is only possible by addressing the hardware directly.

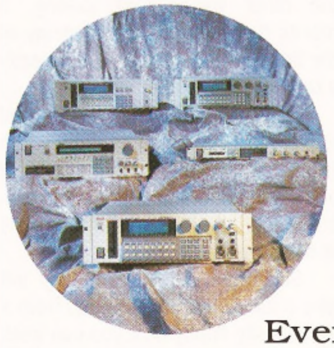
Recently the case for "hitting the metal" has been weakened to some degree by Readysoft who have produced *Escape From Singe's Castle*, the follow-up to their hugely successful *Dragon's Lair*, in a way that can coexist quite happily with the multi-tasking environment. This has raised eyebrows in some corners and shouts of "We told you so" from Commodore.

It should be said, though, that while Readysoft have skilfully avoided techniques requiring the hardware approach, not all games can be written this way. No doubt the arguments for and against shall continue long into the night.

Where 'serious' applications are involved there is no real option but use the operating system routines provided by Commodore – even though some, the graphics library in particular, are tediously slow. The advantage of operating system usageCommodore caused some concern amongst developers recently when they announced Workbench 2.0 with its new version of Intuition and scalable fonts. "For the first time, users will be able to decide the screen font and window fonts." they said. All fine and nice in a perfect world: but hundreds of applications already use the default font and expect to find Topaz 80 or something similar. If users start altering things willy-nilly, as Commodore intend, hundreds of applications will cease to work correctly! This will show itself as alert boxes and requesters suddenly refuse to work properly, if at all. Ahem...



LET'S GO Crazy!



Ever wondered what you would buy if money was no object? **JON BATES** runs through the musical gear of everyone's dreams.

When we check out the list of new products and software to review in the music section, we consider several factors before getting down to the actual nitty gritty, to steal a phrase from our leaderine, of the review itself. These centre around what we figure could realistically be the average set-up of you, the reader. That's how come we run so many articles with helpful hints, cost-cutting exercises and what you should be looking for in music soft and hardware.

The price of the product is all-important. Our surveys show that while a merry few may have disposable income running into figures worthy of a Zurich bank account, the vast majority of you, and that includes me, have not.

Little point then that we should be discussing, say, the very latest sampler from Roland – the S770 – which, with all the add-on bits and bobs, comes in at a shade over £11,000. Yes I would love to get my hands on one, even if only to play with, but the reality is that it wouldn't serve any real practical purpose other than to make both you and I feel pretty second class with only a four-voice Paula chip for consolation.

Dizzy Heights

But is it a waste of time to look at these dizzy heights of technology and erstwhile status symbols? Occasionally, no. We all have to have a standard to measure by. While it might be depressing to see that your present music gear is well down in the status listings, it is interesting to see just how much of the current technology is already in your hands.

In time, today's new state-of-the-art technology becomes the property of everyone, so a look at what is now unaffordable gives a good idea of the technological territory that lies over the horizon. What the megastar hires or buys today will be sat alongside your Amiga three years hence, albeit in an easy-to-use, cut-down version.

Lastly, although one hears of a large amount of equipment out on a permanent loan basis to the apparently rich and world famous it is also true that many of them fork out large amounts of capital for what is the first version of the instrument. Manufacturers like to recoup the money sunk in developing the beast as quickly as possible and any bugs in operating systems are best got rid of before the likes of you and I get our mits on it. If we complain it will be in loudly and in public, not privately over drinks in the director's own penthouse suite.

Lights, Action, Sound

Here's a set-up to make you go as green as a stagnant canal. Hans Zimmer has worked on many a good film score, the last three films he worked on each got Academy Awards

SYNCLAVIER

The concept of having a quarter of a million pounds sunk in various bits of equipment pales completely into the distance when we come to look at the American born and bred Synclavier, which can swallow nearly twice that fee up in one greedy go.



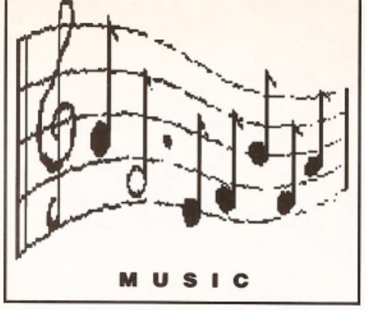
This mega-beast has been rolling on since 1977 and undergoes continuous updates. I first saw it demonstrated in France in the summer of 1980 and was suitably impressed. It is a digital synthesizer, sampler, sequencer and recording studio all rolled into one under the strict control of its own internal computer.

In all, about 700 Synclavier systems have been sold and the latest breed has RISC (Reduced Instruction Set Computer) at its epicentre. This has a prodigious memory, and the ability to run 96 voices and keep 128 channels of MIDI data in check while it controls the 200 track sequencer. One nice touch is that to keep previous users happy the latest monitor screen shows a representation of the original control panel which used to be mounted on the keyboard. If you ordered one, say the top model 9600, it would arrive with a keyboard kitted with controls and a bank of several dozen lights, two cupboard-sized cabinets packed with the CPU, a qwerty keyboard and 19" Apple Macintosh II monitor station. The sound capabilities are quite awesome.

To complete this totally digital studio there is the direct to disk recording module called PostPro. This has an 80Mb system disk all to itself and is capable of storing enormous amounts of sampled sound. In other words, to make your album all you need is this instrument. The results are recorded directly onto four 640 Meg hard disks with all effects etc that you can dream up. For real smarties, you could opt for 16 drives, which gives you a total of 32 hours of stereo recording straight to disk.

The cost, with all the bells and whistles, plus one year's warranty and training, is coming up for £399,250; which is roughly equivalent to seven months' salary as British Airways chairman. But then, would you appreciate it all in one go?

If you have ordered one and this moral point worries you, then please redirect it to Amiga Format Music Editor, Future Publishing, Bath, Avon without delay.

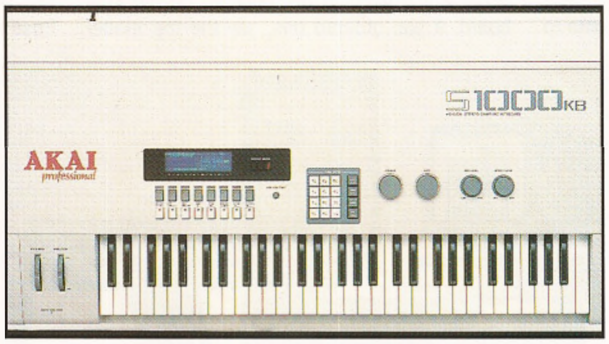


for Best Picture. This give Hans a fair amount of clout when it comes to listing essential equipment to work on the next film, 'Days of Thunder'. His shopping list for this task was:

1 x Fairlight ("My favourite baby," quoth he)
3 x Roland Super Jupiters
2 x Yamaha TX816
8 x Akai S1000 samplers each one expanded to 8 megabytes of RAM and connected to a read once/write-many-times optical drive.
1 x Oberheim Xpander
1 x Roland RD-1000 digital piano
plus his old Emu system and a Roland modular system ("just for those serious bass noises")



BELOW: Part of Akai's range of professional music equipment, including various versions of the industry-standard S1000 16-bit sampler.



MIDDLE: The S-1000 in keyboard form.



BOTTOM: The S-770 is the latest in Roland's range of professional-quality samplers.

Let's just trip through these, shall we Hans, and I'll explain what each one does and how many paper rounds you would have to do to earn the cash to buy it all.

AKAI S1000

Coming from the most popular family of sampling modules, the S1000 is an upgrade of the S950 which was itself an upgrade of the S900. It came out about two years ago and all you need is about £2,700 to get you going. For that you only get the basic memory which is 2 meg.

It samples in 16 bits at the same rate as a CD player, 44.1Khz, has lots of nice features like stereo panning, a possible eight loop points per sample, cross-fades from one sample to another, sample layering, filtering and can play up to 16 notes over eight different sounds simultaneously.

This uses Dynamic Allocation, which is a feature now on most multi-timbral modules. This is how it works. If you want two notes all the time for each of the eight separate voices, then fine. If you want a situation sometimes where Voice A has three voices, then it will 'steal' a note when one of the other voices isn't looking. It makes the most of the polyphony all the time, so you don't have to specify a number of notes per voice.

Hans has each sampler expanded to 8 Megs of on-board memory which works out at £199 per Meg at budget price and £699 if you buy the proprietary board from Akai. Eight boards at budget prices is £1194.

Since the 2 Meg memory will take a full 50 seconds to load from a high-density floppy disk you can work out that waiting for every expanded sampler to load up could take over 25 minutes, time enough to send out for a pizza and eat it. To that add the finger-drumming nuisance of altering sample banks and disk files and you see why he needs those optical disks. These cost about £2600 but take only a few seconds to stuff 8 meg into the memory.

Optical drives are also capable of holding far more than an ordinary hard disk. It is possible that he could get away with one optical disk drive, as the S1000s have selectable identification codes on the SCSI ports, so long as each of the 650 meg disks is set up to work with the eight samplers. According to my trusty abacus the total worth of these samplers and disk drive is £33,752. Incidentally, Akai have recently announced a 32 Meg expander board for £1500.

1000 DIGITAL PIANO

Another return to yesteryear. Launched in 1986, the Roland piano found its way into many a touring band and company. I suspect that here it is being used primarily as a master keyboard. It has piano weighted keys and several controls, although oddly enough it has no after-touch facility. The actual piano sound is superb and its asking price was £2499, although you could drop on one at about £750 on a good day.

ROLAND MODULAR SYSTEM

"just for those serious bass noises..."

About ten years back I hired in a modular Roland system for some session work that required me to sound like Tangerine Dream meets Kraftwerk. They are pre-MIDI analogue synths and come in a series of cases.

You connect the various sections, filters, oscillators, envelope generators, together with patch cords (now you know where the term 'patch' comes from) rather like an old telephone exchange. The sounds are pretty solid, much in the manner of the original Moog sounds, and almost exclusively monophonic.

The sequencer was a laugh a minute. You set up lots of dial and knobs to squirt differing voltages at given intervals into the modules. After about ten minutes of thudding bass patterns it began to drift out of time thanks to the instability of both chips and transformer.

Nonetheless, a museum piece with a punch not often heard nowadays. I haven't a clue how much one would cost now. They were horribly expensive when they came out in the mid-Seventies and it depends whether or not you think it has added value because of its antique status.

FAIRLIGHT

Unfortunately now dubbed 'Failight' as the Australian company that gave it life went into receivership well over 12 months ago. One of the first ever commercial computer musical instruments, it managed to compress all the functions into one. Sampling, for which the instrument was well known, was a last-minute addition to the first model in 1979 and was considered a novelty.

It could synthesize in several ways, including a cunning way of drawing three-dimensional wave forms with a light pen so that you created the sound, mixing sampled sound with synthesized sound and so forth. Sequencing was done very much like many of the sequencing programs with track and edit features with the exception that all the sounds were inside the instrument itself and stored on hard drives.

The Fairlight was to an extent modular, in that both the memory and the hard drives, like the Amiga's, were expandable. When superior hard and software came out you traded your old stuff in.

It came out in three series and the one of the last versions with twin 20 meg floppy drives, 14 meg of RAM plus all the modules would have set you back about £120,000. Not surprisingly, a Series 1 can still fetch about £1000 and a Series 2 about £3000 upwards. However don't expect all of them to talk to your equipment as MIDI only appeared in mid-1985 as additional hardware.

Still one hell of an instrument in the right hands and the number of albums it has worked on is nobody's business. The sampling originally only used 8-bit resolution – just like most Amiga samplers. The quality was due to some heavy duty maths on data and audio compression alike.

ROLAND SUPER JUPITERS

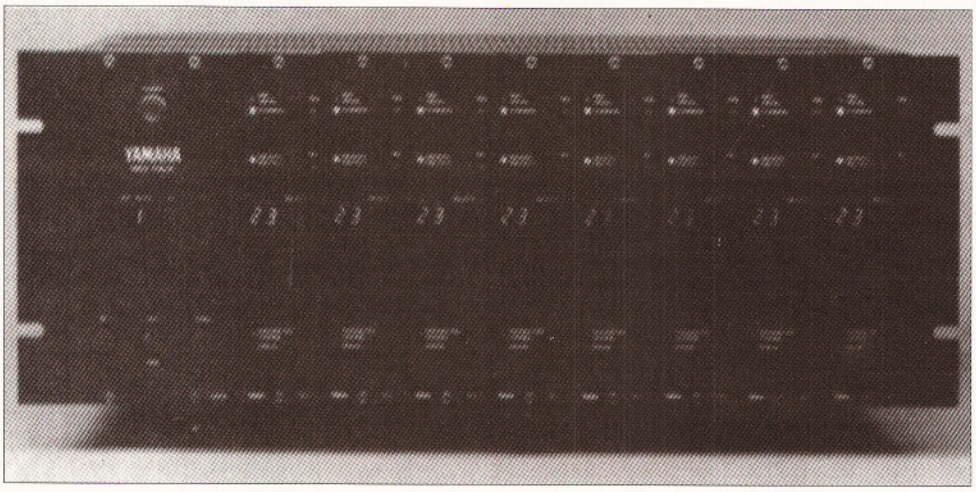
Not as much of a luxury item as you would think. The MKS 80 Super Jupiter was a digitally-controlled analogue synth that had lots of warm, fat sounds. The ones he is carrying around are rack-mounted versions and, to help you program the sounds quickly, you have a plug-in module with good old fashioned slider controls. There are no voicing programs for this beast that I know of. Popular around 1984, but now only available second-hand at about £2000 each

YAMAHA TX816

Take eight DX7's, mount them in a rack and give the user options for individual or massed stereo output and you have a TX816. Launched in the spring of 1985 this little lot would







TOP: The Fairlight CMI, the first studio-quality sampling system.

MIDDLE: The now-classic Super Jupiter contains some wonderful analogue sounds.

BOTTOM: The Yamaha TX816 Tone Module is capable of some high-quality digital sounds.

BLUG IN WOM SHIPS

A couple of years ago I was invited to a well known factory to have an in-depth look at the instrument they had just launched; it cost well over £12,000 and was capable of sounds that took your head off. The previous week it had been performing in public and wooing, via private concerts, several likely clients with bucks aplenty.

As the first member of the press corps to get to grips with it and having a personal invite, I felt rather privileged. Within thirty seconds I had managed to lock the whole instrument up. Not a peep could I get, not even a screen display. The only sound was my jaw hitting the floor in slow motion whilst rehearsing excuses faster than Roger the Dodger...

Switch off. Count to thirty and switch back on. Good, all the lights are winking away and off I go again. Press this, twiddle that, run through the display menus and... oh dear. Instant lock up, £12,000 worth of dead chips and kaputt keyboard.

Resisting the temptation to make for the nearest airport I picked the phone in the corner of the demonstration room and got hold of the technical department. "Blug" was the decision the learned tech team eventually came to. "Blug in WOM Ships".

Now, unless the entire series of this instrument has had its ROM replaced there are a quite a few wafting around the world waiting for the unique combination of buttons that will send those sounds disappearing into the inner universe. Aren't you glad you can't afford one?

Even as I write I spot an advert for a 'prototype laser harp with MIDI'. The starting price is £10,000. Someone has a sense of humour.


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MUSIC

have set you back a tidy penny (£4250) then and even now weighs it at around the £1500 mark. Mind you, you can play 128 notes simultaneously (!) and summon up eight sounds from a choice of 256. Still it is cheaper and takes up less space than a clutch of DX synths.

OBERHEIM XPANDER

A much lauded analogue/FM digital hybrid synth that can play 12 notes simultaneously with 100 preset sounds on board, plus a brace of oscillators and filters. In 1985 you would have shelled out £3945 for this superlative, easy to work with piece of kit. Now a collector's item.

ROLAND RD "THE 'OLD' EMU"

Not too sure about this, but he could just be referring to an Emulator II. Launched about four years ago it is a keyboard and MIDI controlled sampler with hard disk options. The sound quality is pretty superb with an on-board sequencer plus split and layering facilities The price in 1986 was a mere £7250 and I saw one going the other month for £1250.

A Sound Price

So what does all this lot add up to? Financial ruin for most of us, unless you are adept at forgery and disguise. To be sure it is one hell of a system and is by no means representative of all his kit – just what he took over to do that film score. I make it tot up to roughly £213,000.

You could look at this as 20 years worth of average wages, the cost of Luciano Pavarotti for three or four concerts, four months' work as chairman of British Airways or about 426 years doing a paper round 50 weeks each year!

You will notice that we haven't even mentioned software, sequencing and recording equipment in this budget. The set-up is a nice blend of old and new going back over the past ten years or so. Hang on to those old modules and derelict sound chips, they could make the Antiques Roadshow yet!

For A Few Dollars More

The most sick-making thing about the film scoring saga is that when Mr Zimmer has committed his score to disk and digital tape (via £12,000 worth of multi-track digital cassette), the results are sent back to the studio in Los Angeles where it would appear they have an duplicate set-up! Hold on. That's about half a million quids' worth of synths alone. Wonder what they pay for the soundtrack itself?

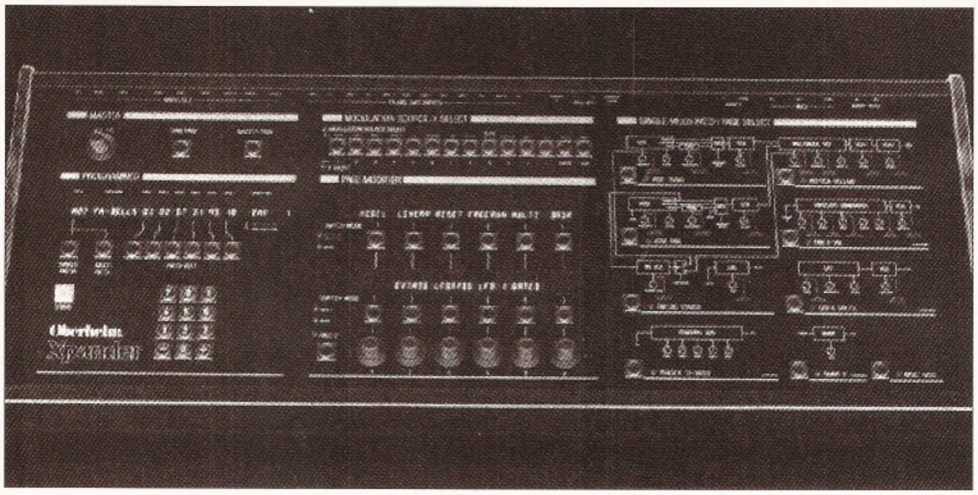
Pass me that WP package.

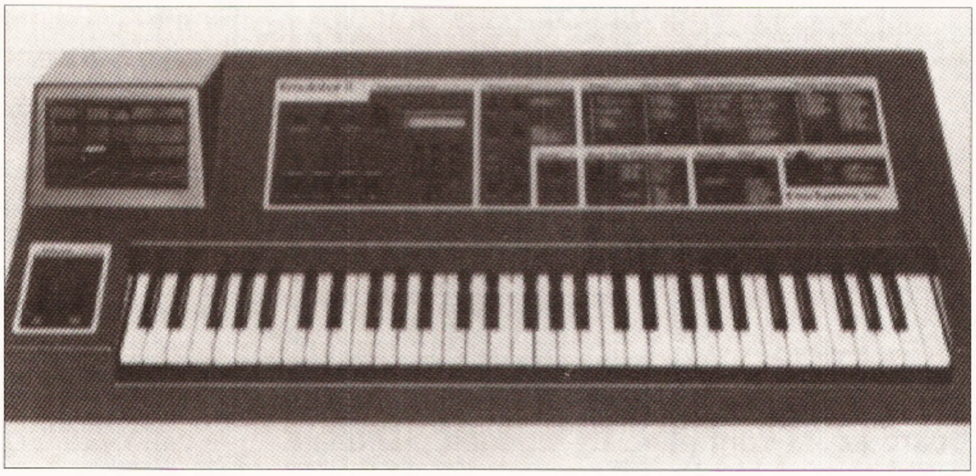
"Dear Mr Spielberg. You don't know me, but as an avid fan of all your movies I couldn't help noticing the odd inadequacy in the soundtrack… loss of tension… heighten dramatic irony… dead cert best-selling album… I feel sure that the enclosed cassette could… nice flavour of bootpolish you have…" etcetera, etcetera…

Don't Despair

With Amiga systems like *Music X* you are getting a miniscule clone of these megasystems: *Music X* has a rather clever software MIDI patchbay, it can program and edit synths as it plays sequences without stepping out of bed, so to speak. As for direct to disk recording – well, I guess we have to wait a little, although there are hardware bolt-ons for other computers.

What we have with the Amiga music soft and hardware is a microcosm of the bigger systems. As the machine matures the kit for it gets better and better. Price for price, we are now getting significantly better sonic value for our money. And that can't be all bad news.





TOP: The Oberheim Expander, despite its age, can still hold its own today.

ABOVE: The Emulator II, which has now been succeeded by the Emax and the state-of-the-art E-III.

NEXT MONTH

we will report on professional studios that are using the Amiga as their main machine for creating music. Don't miss it.

RAP THOSE KNUCKLES

If you are thinking of maybe scraping up enough filthy lucre to hire something like a Fairlight or Synclavier for the odd gig or weekend bear the following story in mind.

A certain American rap band arrived for their soundcheck at Wembley Arena. Spotting the Fairlight lurking at the edge of the stage, the British sound engineer made adequate provision on his desk for the mighty beast, reserving several channels for its outputs. After couple of numbers he requested that the band try out the instrument so that he could get a balance:

"Oh, the Fairlight?"

"Yeah, Just fire it up with your disk so I can get a balance".

"Well we just hired it in, man, like we were told it was a good synth. You mean it needs disks?"

"Sure"

"What disks? Doesn't it make any sounds without them? Can you play it?"

"No. You'll need to hire the disks and a man to program them. Do any of you play keyboards at all?

"Er, no."

"Then you'll need a player and programmer"

At this point the UK record company rep nervously enquired about fees. It transpired that a programmer would cost about £250 for the afternoon and a player about twice that for the evening, if he could learn the show. This on top of the several hundred quid lashed out for the hire of the instrument, now looking about as much use as a handbrake on a canoe.

The Fairlight was returned to the hiring company instantly. The moral is that although instruments of this calibre are indeed superb, they take a lot of getting to know.

ROCK 'N' ROLAND

Win a fabulous Roland music system worth over £600.



Reading about all that lovely hardware on the preceding music pages should have whetted your appetite for getting your hands on some. Fret not about having to shell out mucho moolah, because those purveyors of fine electronic musical masterpieces, Roland, are giving away a system worth over £600.

The system consists of a CM-32L LA sound module, *Dr T's Tiger Cub* sequencer system, *Dr T's Copyist Apprentice*, a desktop accessory disk with the leads you need to run the system through a hi-fi, plus a PC-200 MIDI Keyboard Controller. A very impressive system indeed and it can be yours just by answering three simple questions.

HOW TO ENTER

Write the answers to the following three questions on the back of a postcard or stuck-down-envelope and send it to:

Roland Comp, *Amiga Format*,
30 Monmouth Street, Bath BA1 2BW.

The entries should reach us by September 17th and don't forget to include your name, address and phone number on the postcard as well.

Roland
Inspiration Technology

QUESTIONS

1. What was the electronic musical instrument advertised by Rolf Harris in the '70s?

a) Digeridoo
b) Bontempi Overhead Camshaft Full-Flange Piston Driven Combustion Organ
c) [illegible]

2. What does MIDI stand for?

a) Most Important Diddling Instrument
b) Musical Instrument Digital Interface
c) Mobile Intelligent Destructive Influence

3. Which famous group does Bath's own Roland Orzabal de la Quintana play with?

a) The Redbeards fromTexas
b) The Rhythmites
c) Tears for Fears

RULES

Employees of **FUTURE PUBLISHING** and **ROLAND** are not allowed to enter *(that's the company, not people called Roland who are of course more than welcome to enter – sorry for any confusion caused).*
The judges' decision is final (and they aren't called Roland either). No correspondence will be entered into *(even if you are called Roland).* Once again, sorry for the mix-up over Roland *(the company that is, not my next door neighbour Roland).* **SORRY.**

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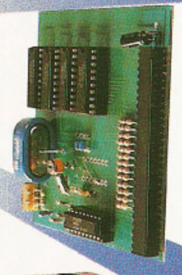
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Workbench

The usual inordinately useful selection of queries answered and tips provided is brought to you once more, this time courtesy of **KEITH POMFRET**.

PHANTOM FLASHER II

In Issue 12 of *Format* you printed a table of "Colourful Crashes" and the reasons why they happened. If Mr Downes had caught a fleeting glimpse of an Amiga technical note and tried to relate all the information to you from memory he can be forgiven.

But how many non-technically minded Amigans have run out and bought a new 1.3 ROM because their screen flashed red, only to find that when they seated their new ROM (at a cost of anything from £30 upwards) to find that on initialisation they get an unwelcome red flash.

I am enclosing copies of the two relevant technical notes from Commodore and you will see that the "authorised" version is quite different from Mr Downes' list in a few places.

My advice would be: don't believe everything you read especially if someone else read it somewhere else first and then wrote about it. The list cannot be trusted, as maybe up to 19 out of 20 cases do not follow Mr Downes' rules.

Having repaired Amigas for two years now I think that I can say this: save yourself some money. If you get a colourful flash on power-up, ignore it. Unless you have problems with the operation of the machine or the running of software, leave well alone.

If you do have software or hardware problems take your computer to a a dealer or qualified repair person. You paid a lot of money for your Amiga (and even more if it's a 2000). Don't start shoving screwdrivers into it.

P Eckersley
Mid Europe

THE TECHNICAL NOTES
BOOT MESSAGES

When the system is powered on, most of the system hardware is checked. If an error occurs, the ROM-resident debugger is called and you can debug the machine via the serial port. At the same time the screen changes to a special colour:

Dark Grey Hardware OK
Red Kickstart ROM has bad checksum
Yellow Unexpected exceptions have occured
Green Problem has occured while local memory is being configured

NOTE: The green symptom is present on units with socket F AGNUS contact problems.

Blue Problem has occured during custom IC register check
Light Grey Software OK

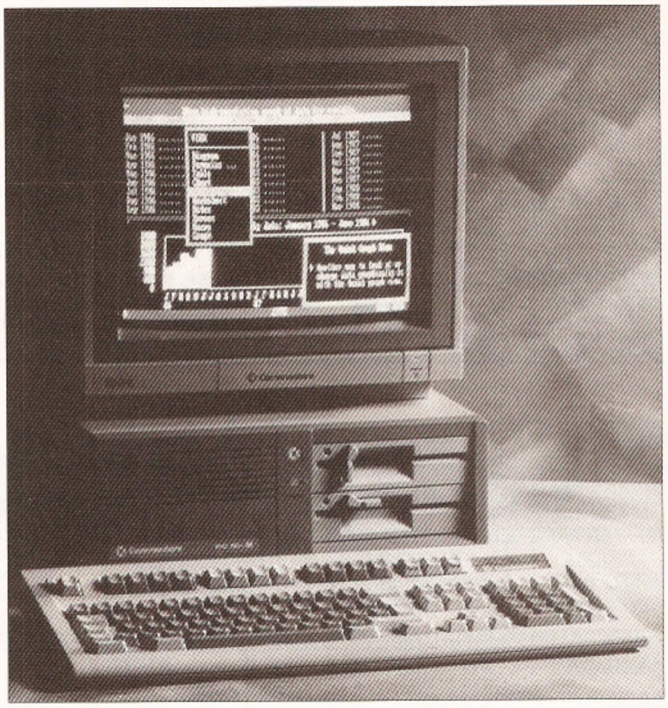
On some Amiga 500 and 2000 machines you may come across a flashing Caps Lock error. Most of the time this is caused by an error in keyboard circuitry , listed below are the possible flash codes.

1 FLASH= ROM (internal to keyboard processor)
2 FLASH= RAM (internal to keyboard processor)
3 FLASH= Watchdog timer. (IC 74LS123 or associated circuitry)

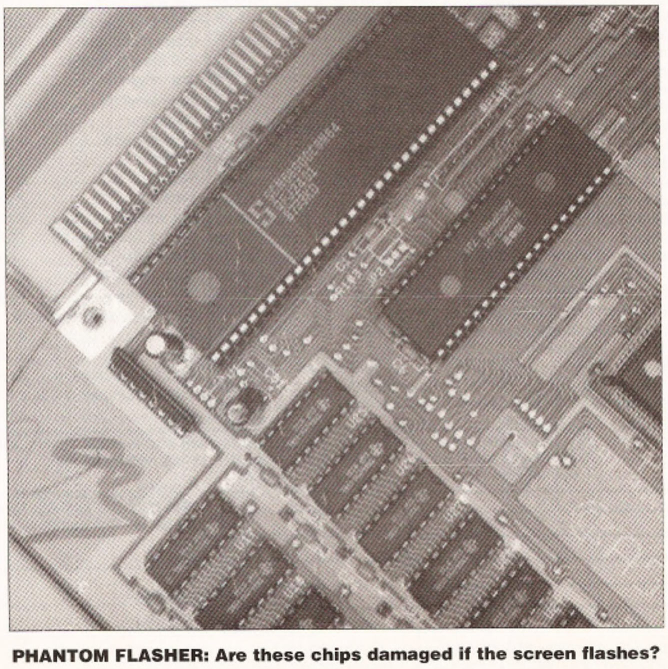
On the Amiga 2000 it is possible to test the keyboard simply by swapping with an alternate keyboard. If the problem persists then the keyboard is not the cause of the problem and troubleshooting on the main PCB will be necessary. With the Amiga 500 it is not practical to swap keyboards in this way. In all cases either the faulty keyboard or the complete machine would need to be repaired by an authorised service company.

So there we have it in a nutshell. When your Amiga flashes at you, it may or may not be trying to tell you that it's feeling a little bit off-colour.

The advice above is good. If something's working OK, leave it alone and remember that if you decide to open up the Amiga to pay Agnus, Denise or Gary a visit at number 68000, you will at least invalidate any warranty and possibly kill your machine.



PREP SCHOOL: Is there a way to deal with a PC virus on an Amiga?



PHANTOM FLASHER: Are these chips damaged if the screen flashes?

PREP SCHOOL I

Please help me. I bought an Amiga 2000 for its ability to run PC software through the 2090 bridgeboard while retaining the other stunning abilities of the Amiga. All worked fine until I loaded some PC PD which I'm told has damaged

Presenting PROTEXT 5.0

Five years to the month after Protext version 1 was launched Arnor are pleased to present version 5, an enormous leap forward in both ease of use and performance.

Protext 5.0 introduces a completely integrated system of pull down menus and dialogue boxes. The menus are among the many operations that may now be carried out with either the mouse or the keyboard. Protext really does give you the best of both worlds.

Protext 5.0 handles printer fonts flexibly and accurately. You can make full use of any number of proportional printer fonts, mix them freely within any line, centre them in headers, use automatically formatted footnotes. And Protext correctly formats your text as you type it, no matter how many font changes you use, showing you line and page breaks exactly as they will be printed.

Protext 5.0 is still the fastest word processor around. Even though we have made all these major improvements we have taken great care to ensure that text editing is as fast as ever. The menus work smoothly and quickly even with high resolution displays. But of course, you can use Protext's efficient set of commands and keys just as before and 5.0 remains compatible with all earlier versions from 1.0 onwards.

Protext 5.0 is a worthy successor to version 4, which was described as "the best word processor at any price", "the best text processor on the Amiga" and "the most powerful word processor on the Atari ST" (AUI, ST/Amiga Format, ST User).

Protext 5.0 heralds a new era of multi-lingual European software, in time for 1992 and the opening up of Eastern Europe. Protext may be used in at least 27 different languages and has 10 different national keyboard layouts built in (plus the capability to define your own symbols and keyboard layouts).



The Features

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- **Enhanced printing capabilities** supports multiple proportional fonts; mixing of different font sizes on the same line; proportional formatting whilst editing; side margin, headers and footers independent of main text font. Tabs, decimal tabs and centre tabs. Extensive range of printer drivers supplied.
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- **Index and contents** generation. Indexer takes marked words or phrases; contents entries automatically taken from titles wrapped in control codes; many options for style of contents output.
- **Spelling checker** features completely new 120,000 word Collins dictionary with very fast phonetic lookup. Anagrams and find word pattern. Foreign language dictionaries (German, Swedish available now, others to follow).
- **Many other enhancements** including multi-line footnotes and endnotes; automatic timed save; add column or row of figures; indent tabs; find word at cursor; 40 column mode support; sentence operations; inter- paragraph space; much improved expression evaluator; self incrementing variables; Roman numerals; newspaper-style column printing; file sorting utility with special options for names and addresses; revised manual plus new tutorial guide.
- **And don't forget Protext still includes** background printing; box manipulation; macro recording; exec files; headers and footers; find and replace; mail merging; undelete; file conversion utility; configuration program; auto reformatting; on screen help; time and date; typewriter mode; line drawing; disc utilities.

The Introductory Offer Prices

Protext 5.0 is available from late August 1990 for the Amiga, ST and PC. These prices are valid until 30 September 1990 only and are only available when ordering direct from Arnor. You can also buy our database, Prodata, for half price if purchased at the same time. All prices fully inclusive. Amiga and ST versions require 1 Mb.

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HALO JONES: The 'halo' fringing effect caused by dodgy digitising, shown here, can be cured.

the files on the 2090 with a virus. I can't work out how PC viruses can attack an Amiga but more importantly, the firm that I bought the computer and bridgeboard off has gone out of business. The other computer company locally isn't able to be helpful as they don't sell Amigas. What must I do to be able to use my hard disk and PC emulation again?

Nicholas Burgess
Wellington NZ

PREP SCHOOL II

Hooray. I've sussed it. A nasty IBM virus on my bridgeboard ate my hard disk and after FIVE MONTHS I know how to get my hard disk back (no thanks to retailers who can rot in Hell for ignoring my letters and phone calls.

All I need to do is PREP the hard disk. Easy enough to do. Now where did I put the PREP command?. I know. The retailers neglected to let me have it!

Hey, *Amiga Format*. Do any of your readers rich enough to have a 2000 and 2090 happen to have the PREP command? I'm sure that one of them might be kind enough to help me get my hard disk reformatted. And while I'm asking, would anyone be kind enough to come round and install the XT bridgeboard for me? My retailer was kind enough to install the board but then they greedily retained the disk concerned.

If anyone (and I mean anyone) can help me save the few remaining hairs in my head, please write to me at the address below.

Mike Robinson
79 Ringwood Road
Southsea, Hants PO4 9TJ

PREP SCHOOL III

I'm writing to let you know of a strange hobby indulged in by certain computer retailers. They become attached to any disk that passes through their hands and won't let go without a dose of very strong medicine.

I bought a bridgeboard for my Amiga and the local dealer suggested that to avoid risking the warranty, she would have a qualified service engineer put it in and make it work (only £30 and all that peace of mind).

The Amiga with its little hard one went home with me and I remained peaceful of mind until a month later when trying to be a smartass, I infected the bridgeboard with a virus that killed everything on it.

Unwilling to pay another thirty Thatchers, I decided to do the job myself as the machine was now just out of warranty. On checking, I found that the shop had retained the disks with the necessary files to redo the disk. The obligatory phone call to my dealer recieved an offer to redo the disk at £45 (the price had now gone up) but an absolute refusal to part with the necessary files to allow me to do it myself.

The remedy was as follows.

1 A stiff letter to the dealer explaining that the files were my property and threatening action if they weren't sent to me.

2 A stiffer letter to the local Trading Standards Officer outlining my complaint.

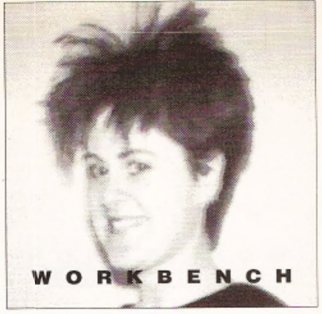
3 A Writ issued in the small claims section of the local County Court citing the case.

4 Letters of record to every publication in which the dealer advertised outlining why I considered publishing adverts from this dealer to be dishonest and misleading

5 A letter to the local Police suggesting that the retaining of my property was at least theft and could only lead to the illegal use of the files in question.

The net result was an immediate offer to do the job for free and a request that I stop all action. As a matter of principle I have decided to continue all action if only to remind the dealer that customers should be treated with respect, not contempt.

Rob B
West London



So letter 2 answers letter 1, letter 3 answers letter 2 and the unscrupulous capitalist takes her chances with the courts of the land. A fairy-tale ending to a common problem.

The one real lesson to be learned from this situation is that if you attempt to emulate another machine, you lay yourself open to its problems. In this instance we see Amiga 2000s catching a cold from the IBM PC virus but with the trend toward Mac/PC/BBC/ST and other emulators you must remember that this brings, with each one, the problems as well as the advantages.

HALO JONES

In the recent feature article "Digitiser Masterclass" it was explained how best to avoid the 'Halo Effect' when the video camera is knocked or shaken. Obviously buying a tripod is the best answer but what should you do if you're stuck with a digitised frame that already suffers from the dreaded 'Halo Effect'?

If you have a copy of *Pixmate* and *DPaint* it's your lucky day so read on. (If you haven't, you really should slip down to the nearest software emporium and purchase them before continuing.)

1. Load the offending picture into *Pixmate* and select Extract RGB fron the Color menu. This will save the picture as three 16-colour IFF ILBM files for use in *DPaint* or any other non-HAM paint package
2. Load the first file (Filename.RGB.red) into *DPaint*.
3. Swap to the spare screen and then load the second file (Filename.RGB.grn) into the spare screen in *DPaint*.
4. Check to see if either appears to move by flipping back and forth between the two.
5. If you don't spot any movement, try loading the third file (Filename.RGB.blu) into one of the screens and repeat step 4.
6. When you discover which of the frames is out of line, pick it up as a brush, clear off the old image by blanking over it, reposition the brush, stamp it down and save it out. You may have to guess at the amount of shift required to bring it in line with the other two frames.
7. Quit *DPaint* and return to *Pixmate*. Select the first file (Filename.RGB.red), then go to merge RGB on the Color menu.

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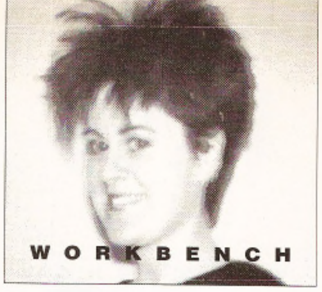
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Use either to 32 or to HAM depending on the mode of your original file. Select the remaining frames when prompted.

8. With a little luck your picture will be recombined with little or no Halo effect.

9. Say: "Thanks Paul for a brilliant and useful tip."

10. GOTO Bar

11. Buy pint of Stella for Paul

12. Buy pint of Scruttock's Old Dirigible for Keith

13. GOTO 11

Paul Bellamy

And why not? I had to make some slight adjustments to instruction 11 by adding steps 12 and 13 which I'm sure you'll agree is a desirable loop designed to restore the full hydraulic equilibrium. As with many untried programs, the loop may cause a full system crash, in which case, extensive debugging and system development trying out various other variables (such as Dortmunder, Becks, Freugmeister, Boddingtons etc) is the best solution. The only real potential problem (with this routine other than the hangovers) is that after a litre or several, everything will have a bloody halo.

CHEAPSKATE!

Here's a cheap solution to the problem that you get if you blow the fuse on the joystick/mouse ports. To avoid losing your machine for weeks on end and paying loads of money you can do the following.

It is quite possible to take the necessary five volt power supply from the external disk drive connector at the back of your Amiga and use it to drive the joystick/mouse port. By simply linking pin 12 of the disk connector to either joystick port pin 7, the mouse and joystick recieve the required five volts. No fussing about waiting for your computer to be fixed or waiting for yonks and paying a hefty fee.

Samuel Chan
Isle of Wight

If I were you, I'd start saving up the money that you imagine you're saving because you will certainly need it in the near future. The sort of make do and mend repair work that you describe is the domain of the cowboy repair shops that we hear so many sorry tales of. If a fuse goes, it is an indicator that something's wrong and needs attending to.

If you neglect to source and fix the original problem and then compound it by 'borrowing' power from elsewhere you will no doubt see some other problem before long. The disk drive power supply is there for the exclusive use of an extra disk drive. If you are using the disk drive power supply for a mouse and joystick and then choose to add an external drive, you could overload the drive power supply and end up with twice as many problems.

LEAVING THE AMIGA?

I want to upgrade from my Amiga A500 and the possibilities within my financial capabilities are:

• A memory upgrade to take my A500 to a total of 1024K and an external disk drive.

• An Atari 1040STE which my friends who own STs tell me is an enhanced machine that beats the Amiga hands down for speed, sound and graphics.

• A build-it-yourself PC from one of these component suppliers who haunt the back of all the PC magazines. Although you are an Amiga magazine, I expect truthful answers as a lot of my cash could be on the line.

Nigel Smalley
Wolverhampton

```
Echo "*ec"
Echo "Recoverable Ramdrive Autoboot V1.0"
Echo "*nMounting device 'RAMBO'"
Mount Rad:
Echo "Done"
Echo "*nMaking needed directories in Ramdrive"
Echo "Creating C Directory"
Makedir Rad:C
Echo "Creating S Directory"
Makedir Rad:S
Echo "Creating Libs Directory"
Makedir Rad:Libs
Echo "Creating Devs directory"
Makedir Rad:Devs
Echo "Creating L Directory"
Makedir Rad:L
Echo "*nMade directories C,S,Libs,devs,L"
Echo ""
Echo "*nNow copying important data to Ramdrive"
Echo "Copying needed commands"
Copy C/LoadWB|EndCLI Rad:C
Echo "Copying Icon Library"
Copy Libs/Icon.Library Rad:Libs
Echo "Copying System Configuration"
Copy Devs/System Configuration Rad:Devs
Echo "Copying Ram-Handler and disk validator"
Copy L/Ram-Handler|Disk validator Rad:L
Echo "*nMaking Startup Sequence"
Echo > Rad:S/Startup-Sequence "LoadWB*nEndCLI"
Echo "All Done!!"
```

Take the memory upgrade and extra drive. You will benefit from staying with a system that you know and of your three options, this one seems to be the cheapest as wrell as the most prudent.

The Atari STE is an enhanced ST that goes some way toward providing some of the features of an Amiga on an ST. Without jumping feet first into the ST/Amiga debate, the STE runs TOS1.6, the latest version of the ST operating system, but despite gargantuan efforts by programmers has a massive software incompatibility list, refusing to run many dozens of ST titles.

A PC might be a solution for someone who wished to step backwards into an archaic operating system and architecture that is about twelve years out of date. The PC is welll supported and has a huge base of softwarte but the culture shock of moving from an Amiga to a PC could be a retrograde step. Would you like your car to have a crash gearbox and brakes only on the back wheels?

LIKE RAD, MAN!

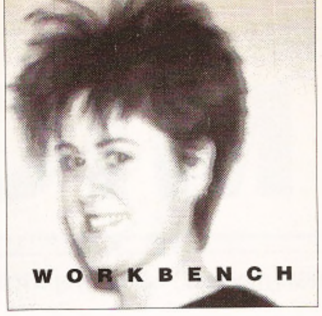
I guess that all you clever dicks at AF are all familiar with the device rad: (the recoverable ramdrive device) I wonder how many readers will have noticed that it is in the mountlist on the workbench disk. In case you don't know, it's a 21-cylinder RAM disk that stays in memory even after reset (Ctrl/Amiga/Amiga). It is even possible to boot up from this as long as there is no disk in DF0:

I have written a small batch file using the text editor Ed, to make this facility easy to run. Just type it in using the editor and use the command EXECUTE to get the program to start.



CHEAPSKATE: If your joystick won't work because the port fuse has blown, the last thing you want to do is botch a repair.

Command	Writing	Background	Effect
Echo "*c"			Clear screen
Echo "*n"			New Line
Echo "*E[1m"			Bold Type
Echo "*E[2m"			Italic Type
Echo "*E[3m"			Underline Type
Echo "*E[34m"	Blue		Change Colour
Echo "*E[35m"	White		Change Colour
Echo "*E[36m"	Black		Change Colour
Echo "*E[37m"	Yellow		Change Colour
Echo "*E[40m"		Blue	Change Colour
Echo "*E[41m"		White	Change Colour
Echo "*E[42m"		Black	Change Colour
Echo "*E[43m"		Yellow	Change Colour
Echo "*E[8m			Freeze Cursor
Echo "*E[0m			Reset All





TIME FOR ACTION: The CDTV, like the Amiga range, is setting standards for the future.

This batch file is shown top right on Page 124. If at any time you wish to get rid of the RAM drive either turn off the computer or use the REMRAD command. It will help if you have more than 512K of memory.

As well as the above batch file, in the bottom right-hand corner of Page 124 is a table that I've made of some of the useful ECHO commands and functions. It is probably documented somewhere but but since I haven't run it to ground and I'm sure many other *Format* readers haven't either, here it is. I hope that the several hours that I took finding these out can save your readers a similar time wasted.

Andrew Nicholas
Hassocks, W Sussex

TIME FOR ACTION

As a potential purchaser of an A500 could you enlighten me on a few points. Is now a good time to buy an A500?

1. Will there be a new version of AmigaDOS borrowed from the new A3000 machine?
2. Is the CD Amiga console (the CDTV) worth considering?
3. I have read that the Amiga has a bleak future. Could this be true?

Lyndon Hill

The summer is traditionally the lull in the computer market and the time for the best bargains so if your criterion is one of cost, shop around for a hungry retailer. The down side of that is that manufacturers traditionally update their model range in the autumn in time for the Christmas rush.

Thankfully, with the Amiga you can often get the best of both worlds as most of the upgrade paths so far can be either retrofitted or have been 'cloned' by third party suppliers. When the A500 was originally concieved, it had no specific bus or expansion slot for a bridgeboard or hard drive but the open architecture of the Amiga and the ingenuity of companies supporting it have made it the most flexible and upgradable system yet.

When you ask if the CD Amiga is worth considering, you don't say what you would use it for. It is a well specified system and if a CD system is what you need, will fill the bill admirably.

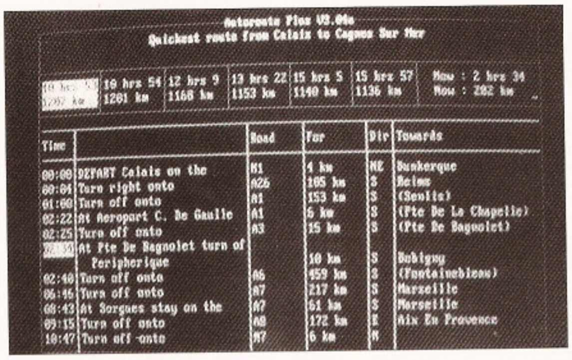
Far from it having a bleak future, the Amiga is ready to keep on setting standards by which all other computers will be judged.

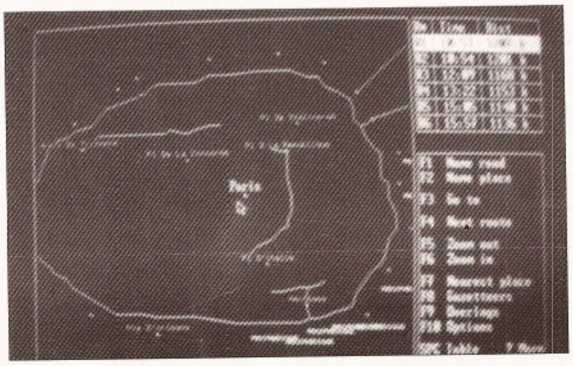
ON THE MOVE

I intend to start a small removal business utilising a 7.5 tonne lorry, an unwilling wife, several offspring and my trusty Amiga. I already have the lorry (A Fiat OM75Ti), the wife (Joanne, 36, one owner, no rust) and the offspring (Paul, Andrew, David, aged between 15 and 18 and reasonably sturdy). The Amiga has had extra memory grafted on and now is a 1 megabyte machine with a couple of drives. I have a word processor, spreadsheet and database, can persuade it to print labels and reports and with an ink jet printer it puts out some quite acceptable text and pictures.

A company that has offered me sub-contract work uses a route-planning system on their PC that gives mileage and routes. It is called *Autoroute*. Will it run on my Amiga? I don't want to buy a PC (but would budget £500 for it if there was no other way). So my question is simply, is there any way that I can either run this *Autoroute* (or a similar program) on my Amiga (or even under emulation of some sort)? Failing this, would it be eaasy to write a database that could calculate the shortest distance between points and plot the best route.

Joe Foden
Crewe, Cheshire





***Autoroute* is only available on the ST and the PC and was the original route planning PC software. Since it was originally written it has been massively upgraded to Autoroute Plus, which will only run on a PC with a hard disk drive. The plus version has facilities for cost and optimisation overlays to be added and is better suited to a commercial environment but if you are planning a one vehicle operation and the main need is to calculate and print out routes there are three possible options for you.**

1. Get a cheap PC. With this you will have a dedicated machine for your route planning. Autoroute will run on this (as long as you at least have a CGA graphics card) but you'll need a hard drive to run Autoroute Plus (and an overdraft if you add all the modules on too).

2. Fit the A500 Bridgeboard in the memory trapdoor underneath. This will allow you to run Autoroute but not Autoroute Plus. It utilises your existing hardware and allows you to remain with a machine that you know your way round.

3. Get an ST... no, forget I even said that, it doesn't bear thinking about.

The first option is probably the easiest in terms of logic but you will then be the possesor of an inferior machine to do a job that is quite possible on your Amiga given hardware add-ons. No one with ten percent of half a brain would even consider buying an ST if they could do the job in question just as easily on their Amiga.

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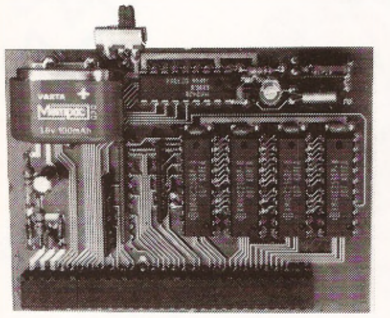
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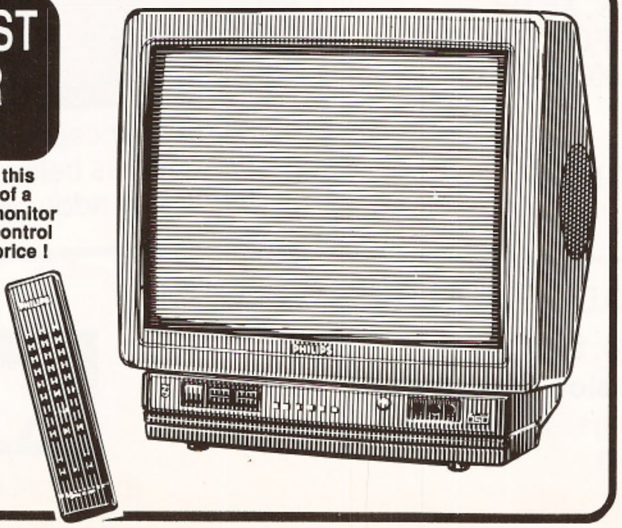
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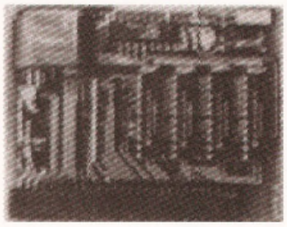
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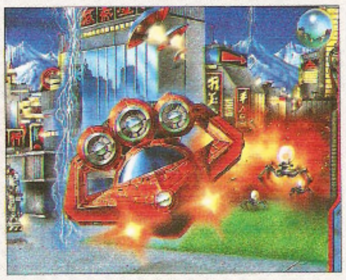




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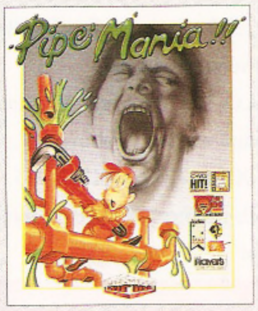


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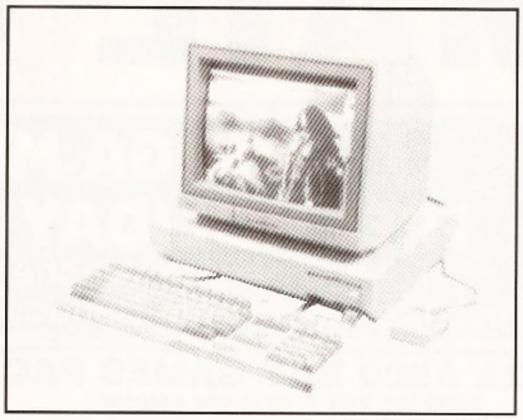
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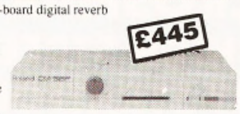
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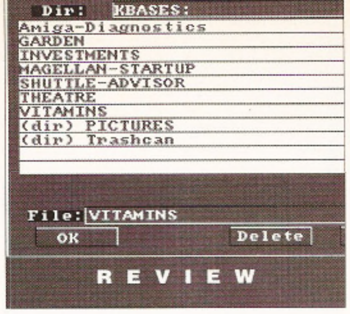
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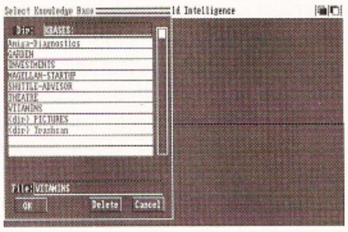
Expert Systems are a form of artificial intelligence that can analyse and help solve your problems. **PAUL LYONS** looks at the Amiga's first expert.

Everybody knows a man who can start faulty cars or navigate giraffe-carrying vehicles from one place to another. But how many people know a man who can tell you this *and* what that nasty brown mould on your begonias is? And how to fix a faulty video recorder? And why Napoleon lost the battle of Waterloo? And where to go to get the best view of the next solar eclipse? And countless other things.

The answer is, of course, your Amiga running the *Magellan* Expert System – yes, a bit of a trick question, I know, as an Amiga is a what and not a who. Yes, even an A3000 with a Genlock and a Hypercube 40Mhz 68030 is not a sentient being.

Specialist Subject

An expert system is a kind of simple artificial intelligence program. It takes a group of facts on a particular subject (a 'knowledge base') and makes decisions based on the things it knows about those facts. The user can ask the program a question about the subject and the program will try to deduce an answer from the information it has. If it needs more information the expert system will



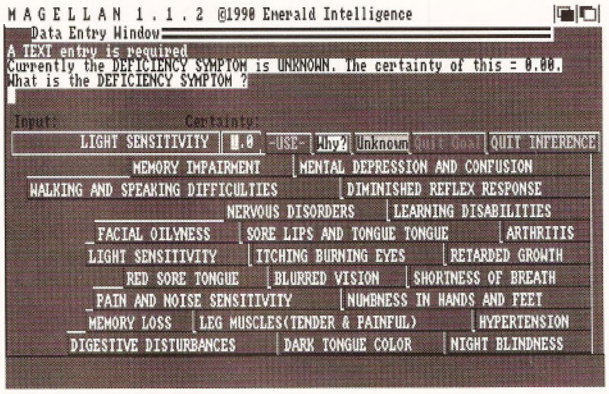
work out exactly what it needs to know to solve the problem and then it will ask the user one (or more) questions in straightforward English.

The more questions that the user asks of the program, the more 'intelligent' it will get and the fewer the additional questions it will need to ask to give an answer. After a time (depending on how complicated the subject is) the user can ask a question and the expert system will give a quick and sensible answer.

A properly-designed knowledge base will give answers that are as good as a human expert on the subject, which is of course why they're called expert systems. Unlike human experts they can work 24 hours a day and will always give consistent results, they don't get tired and they don't ask for more money as they get better at their job

Logical, Captain

An expert system works by making a series of logical deductions. First it splits up the question that it's being asked into its component words. Then it searches the relevant knowledge base for any mention of those words, and finally it makes deductions about the words from al the references it has found about



ABOVE LEFT: A choice of different knowledge bases is offered.

ABOVE: Showing a range of symptoms, from which the expert system can deduce the cure that is needed.

❝ Unlike human experts, an expert system can work 24 hours a day and will always give consistent results, they don't get tired and they don't ask for more money ❞

them in the knowledge base. For example, the *Amiga Format* Official Editor's Coffee Fetching Assistant asks the *Amiga Format* Expert System if the Editor is likely to give him a pay rise today. The program checks its knowledge base on pay rises. It says:

The Editor gives rises if:
1. there's a blue moon.
or 2. he had fun last night
or 3. he's in a good mood
and also The Editor never
4. pulls anyone good-looking.

From these facts the program deduces that facts 2 and 3 are not true and so it asks the Coffee Fetching Assistant: "Is the moon blue?" The assistant answers no and the program tells him that there's no chance of a pay rise this millennium. As the program gets more sophisticated it will give the answer quicker and with a greater certainty (like the Editor himself, in fact).

How does it Work?

Magellan comes on three disks: the main program and hard disk installation routine, half a dozen sample knowledge bases and an interface toolkit. To run the program simply insert the main program disk and turn your Amiga on. It will run on a standard Amiga A500, but this does severely limit the size of the knowledge bases that can be created and results in some disk swapping. A second disk drive and extra memory greatly enhance the system's capacity and performance.

Installing the program on a hard disk is also simple: just run the installation program, specify where you want to install the software and enter the patches that the installer gives you in your start-up sequence. *Magellan* will take advantage of any amount of extra memory or disk capacity added onto your Amiga. On our regular technical test machine (an Amiga A2000 with a 40Mb hard drive) even complex knowledge bases with a large number of calculations were handled with blistering speed.

All expert systems are comparatively easy to use, but where *Magellan* scores over other systems is that it is also very easy to program and make new knowledge bases. All stages of the program follow the Amiga user interface with multiple, resizable windows and all commands available on pull-down menus, which also adds to the simplicity of use.

Creating a Knowledge Base

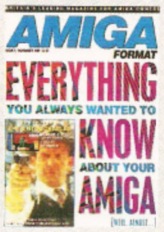
For a knowledge base to be really successful there are several steps before even turning your Amiga on.

- Decide exactly what you want the knowledge base to do. Suppose you want it to be able to tell you how to fix your car when it breaks down. Exactly what do you want it to tell you about? If it's the electrics, which bits of the electrics? And in how much detail? If you want it to help you grow better begonias, do you want it to simply tell you where you're going wrong? Or how to put it right?

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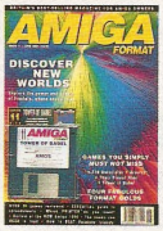
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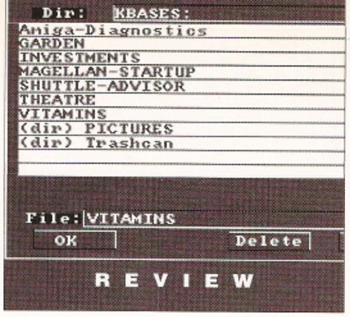
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To create a knowledge base you must have at least a little knowledge about the subject yourself. So that *Magellan* can give you answers, you must first put the facts into the program. And some knowledge of the subject will probably be needed to understand the answers the program gives you. This doesn't mean that you need to be an expert. If you can find a book called 'Space-Shuttle Repairs for Beginners' or '1001 Tips for Astronautical Engineers' then all you have to do is feed the information into your Amiga and then you too can have the knowledge of a NASA scientist at your fingertips.

• Divide the information up into simple statements. *Magellan* works on a with an easy IF... THEN structure. Each rule has a Premise (If this happens...) and a Result (...then this is the result).

Within that the premises and results are divided into Object (the thing that this rule is about), Attribute (more information about the Object), Operator (IS, IS NOT, ARE, or ARE NOT) and Value (a property of the attribute – if the attribute is WEIGHT, then the Value is HEAVY or LIGHT).

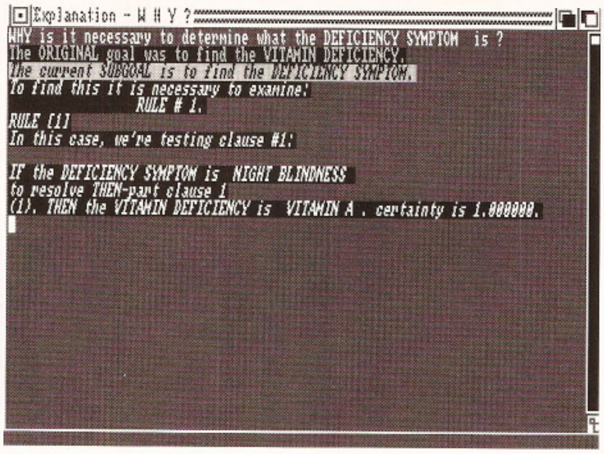
By using such a system, *Magellan* simplifies the method of inputting rules and also ensures that the questions it has to ask the user are sensible. For instance in our Space-Shuttle repair expert system rule 1 might be used to tell the program that if the Shuttle is too heavy, then it won't get off the launch pad. So rule 1 would read:

	Object	Attribute	Operator	Value
IF	CARGO	WEIGHT	IS	HEAVY
THEN	SHUTTLE	DIRECTION	IS NOT	UP

Rules can be much more involved and can combine a number of rules into one. A really complex rule could say "If cargo weight is heavy and fuel load is little or engine power is low then shuttle direction is not up and crew exit is fast".

• Type the rules into your empty knowledge base. Use the force answer option wherever possible. This means that it the program has to ask the user a question, a list of all the possible answers are presented on the screen for the user to click on with the mouse.

• Test the system. You should start by asking it simple questions that it can answer by looking at only one rule and then progress to more complex questions. After each new session, having corrected any mistakes, you can save the extra learning that the program has done. Each time you use it, the program will learn more about the subject of the knowledge base and become more accurate and consistent.



ABOVE: If you ask the program why it is asking you a question, it will explain what part of the logical chain it is working through.



Extra Features

For such a fast and compact program, *Magellan* has an enormous range of features. There are basically three parts to making a successful knowledge base: compiling it, testing it and using it.

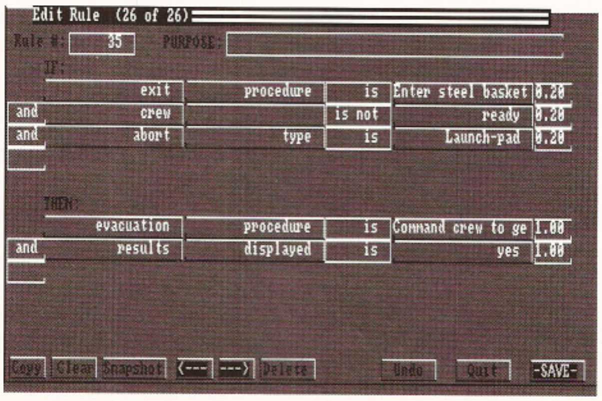
When compiling a knowledge base, as mentioned above, the rules can be made quite complex with up to five IF statements and five THEN statements in one rule. If the program has to ask a question of the user, it can be set to show a box with all the acceptable answers.

Each question and answer also has a threshold value. This is a probability number – 1.0 means that something is absolutely true (100% accurate), 0.5 means that has an equal chance of being either true or false (50% accurate) and 0.1 is probably untrue (only 10% accurate).

For questions that the user can't answer with absolute certainty, you can set a lower probability on the correctness of the answer. Likewise, if *Magellan* isn't quite sure about its answer it will tell the user exactly how close to the right answer it thinks it is. Over .8 is probably correct, below .2, it's probably wrong.

When testing a knowledge base, if the program starts giving answers that obviously aren't correct, then the user can ask it to show all its reasoning and which rules it has used to reach its conclusion, which makes trouble-shooting much easier.

BELOW: Editing a rule so that it asks the question you need.



Backwards Logic

When the knowledge base is actually being used it can run in Backchaining Mode, which gives the answer to a particular question ("Who is the the president of France?"); Forward-chaining mode, which gives all the information it knows on a particular subject ("What do you know about the President of France?") or Synergistic mode, which works out the answer to the question it is asked and then goes on to forwardchain all the information it can from the answer just arrived at.

Add to this the dictionary and synonyms commands that allow the program to understand badly spelt or poorly-phrased answers and the ability to play sounds and display IFF files as part of an answer and you have an extremely powerful diagnostic and educational learning tool.

It's one thing to be told how Nelson won the Battle of Waterloo, but how much more real is the experience if the pupils can see the ships manouvering and hear the cannons roar? And how much easier is the task of training motor mechanics when the program not only says that the distributor cap is cracked, but shows a picture of the normal cap and points out likely weak spots where cracks might occur?

Magellan also comes with an interface toolkit that enables the program to draw data from other files or even from other inputs. This means that your Amiga can make weather forecasts automatically by drawing data from the instruments connected to its serial port or even dial-up news services with a modem, take in the current news and make inferences on world political opinion. The creation of such systems may sound very involved but it's not.

The creation of a powerful knowledge base is complicated and takes time, but it's not difficult. If you can write a Basic program to count to ten, then you already have enough programming skills to use *Magellan*. Virtually any subject that a human can be an expert on, so can *Magellan*.

Magellan is an incredibly powerful package, not only because of the vast range of features but also for its unrivalled speed and versatility, even on an Amiga A500. If this was available on a Macintosh, it probably couldn't be much more powerful, it certainly could cost several times the price – and it definitely would still be worth the money.

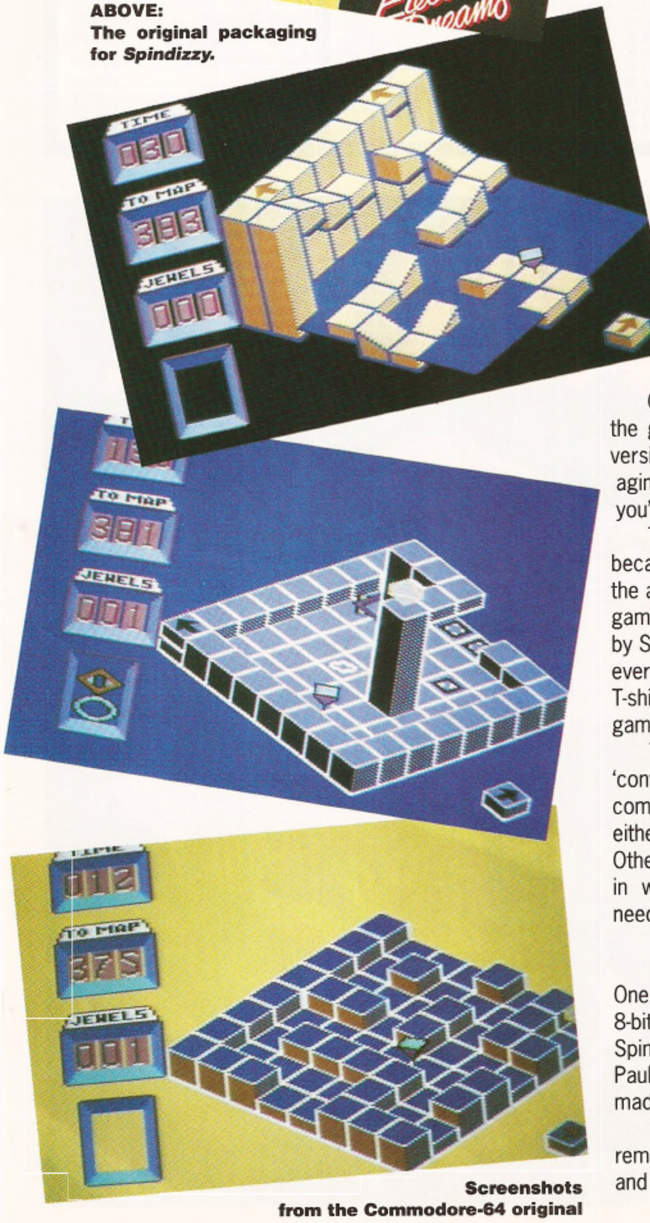
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SPIN Yourself To Fame

Put your artwork on the packaging of *Spindizzy II*
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ABOVE: The original packaging for *Spindizzy*.



Screenshots from the Commodore-64 original

Electric Dreams are offering a lucky artist the chance to earn instant fame by providing the artwork for their new game *Spindizzy II*. The winner will see their illustration on every single copy of the game sold, and who knows it might even turn into a career – an opportunity no real budding artist should miss.

On this page you'll find a description of the game, screenshots of one of the 8-bit versions and an example of what the packaging looked like on the original, so that you've got an idea of what is required.

The time limit is quite a tight one because Electric Dreams obviously need the artwork early enough to get the finished game out, so make sure your entries are in by September 3rd. The lucky winner will get everlasting fame plus a Revel airbrush kit, T-shirt, mug, watch and a copy of the game. 10 runners-up will also get a game.

Your entries should be illustrations in 'conventional' media, ie painted and not computer generated. Don't put the logo on either as this will be added at a later stage. Other than that you have a totally free hand in what the illustration is – obviously it needs to reflect the game itself, though.

THE GAME

One of the most inspired creations on the 8-bit computers was a game called Spindizzy from Electric Dreams, written by Paul Shirley. This classic game has never made its way onto the Amiga – until now.

The basic idea behind the game remains the same, but it's now much bigger and with a whole new batch of puzzles to solve. So what's so special about this 'old' game then? Simply that it has some of the most addictive and rewarding gameplay on the planet.

You control a spinning top that has to explore a vast geometric landscape in search of jewels to collect against the clock. That arcade challenge is balanced by the fact that nearly all the jewels can only be reached by solving puzzles involving floor switches, lifts, ramps, disappearing tiles, trampolines and so on. Many a happy hour can be spent working out which floor tile needs to be activated to create a route to a jewel.

Along the way there are many dangers, most of which involve flying off into thin air or plunging down into watery depths. To conquer them all you need excellent control over the highly responsive top and a healthy dose of mental dexterity too.

HOW TO ENTER

Send your completed illustration to *Spindizzy II* Comp, Amiga Format, 30 Monmouth Street, Bath BA1 2BW. The entries should reach us by September 3rd and don't forget to include your name, address and phone number.

We will pass them all on to Electric Dreams for judging and will be printing as many of the entries as possible. So get those entries in, fame awaits.

RULES

Employees of Future Publishing and Activision are not allowed to enter. The judges' decision is final. No correspondence will be entered into.



MUTANT Mouse

Is your mouse about to utter its last squeak? Have your joystick's switches seen better days? Then pay heed! **MAFF EVANS** checks out a single alternative to both systems.

Being able to use a variety of control systems is one of the beauties of the Amiga. The fluid control of the mouse is useful for menuing systems and design work, whereas the joysick has the ultimate speedy response required in a video game. But what if you need to use both rather frequently, but don't want to keep swapping them over all the time? Gravis may have the answer in the shape of the MouseStick.

DOUBLE OR QUITS

The MouseStick claims to be a replacement control device which can function as a standard joystick AND a mouse. The stick itself is an analogue device (like a mouse) which is equipped with two base-mounted buttons, a 'thumb' button on the top of the stick, a 'sensitivity adjuster' and three roll-switches to designate the buttons' functions.

The three buttons can be set (via the switches) to act as either the left or right mouse button – the left button being the normal joystick fire button. The sensitivity adjuster is a large wheel set in the base of the stick. This allows you to alter the 'feel' of the stick – from a 'loose' action (useful for when the stick is in mouse mode) to a tight, sprung action, which will make the stick act as a self-centring joystick.

TECHNO-BLOCK

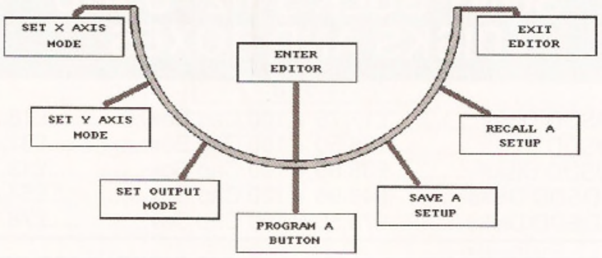
So that's the stick itself, but what's that big block hanging off the back of it? Well this is the GMPU (Gravis MouseStick Processing Unit), which is basically a 16K computer which holds all the information on how the MouseStick should act. The GMPU can be programmed via a series of editing 'menus' which are displayed on a two-line liquid crystal display. These allow the user to alter a whole host of settings as well as switching between mouse and joystick mode.

STICK PROGRAMMING

The editor is constructed as 'layers' of options, accessed by holding the stick in a certain direction so that the section you want is displayed on the panel. These include setting the centre position, the input and output resolutions (to determine how far the pointer moves across the screen when the stick is moved), locking movement to certain axes, setting up an autofire rate for the buttons and designating areas for when the joystich has no effect on the pointer (so that it doesn't wobble around when you don't want it to).

When you have designed a particularly complicated setup, you may want to store it so that you don't have to go through the laborious process of wading through the option screens every time you boot up. By entering the Save Setup and Recall Setup menus, you can actually store up to three pre-defined settings thus saving a lot of time and effort.





TOP: The MouseStick.

ABOVE: An example of the MouseStick's menu configuration, showing the first level of the editor in operation.

MEASURING STICK

So how much of a breakthrough is this remarkable device? Well, having a joystick and a mouse in one basic unit seems a rather good idea. The ability to design and save various configurations means that you can tailor the stick to suit your own needs. But the real crunch comes in how the stick itself actually performs.

In testing, the stick unfortunately failed to impress many people around the *Format* office. In Joystick mode, the travel was found to be a mite too wobbly, giving little feeling of stability when playing frantic arcade games. It's most annoying trying to trap and turn the ball in a game of *Kick Off* when you have to wrench the joystick such a long way that the ball flies off in the opposite direction to which you intended it to move.

As a mouse, the stick turned out to be somewhat infuriating. Moving a mouse or a trackball to a particular spot is easy and straightforward, but finding the exact spot by moving a loose, analogue joystick tends to be a shade unwieldy.

The stick tends to fall to the side when you let go, so that the pointer drifts off target – unless the sensitivity setting is tightened, which means that the pointer flies back to the centre of the screen. Not too much fun if you want to type things in as well as using a pointer.

The idea behind the MouseStick is a good one, but the performance of the device failed to live up to our great expectations.

Hopefully, though, Gravis will still persevere with the concept and release a further MouseStick with a different feel, to allow users with various preferences to get the most from this innovative system.

GRAVIS MOUSESTICK
All Amigas, £69.95
Advanced Gravis (via Chris Steavenson) 0959 64641

GAME Busters

It may be too hot to sit in with your computer, but as you sit on the beach reading your mag you can always peruse these luverly tips and cheats that **MAFF EVANS** has sorted out for you, ready for when you hit those pixels again. Enjoy your holiday – it's back to work soon!

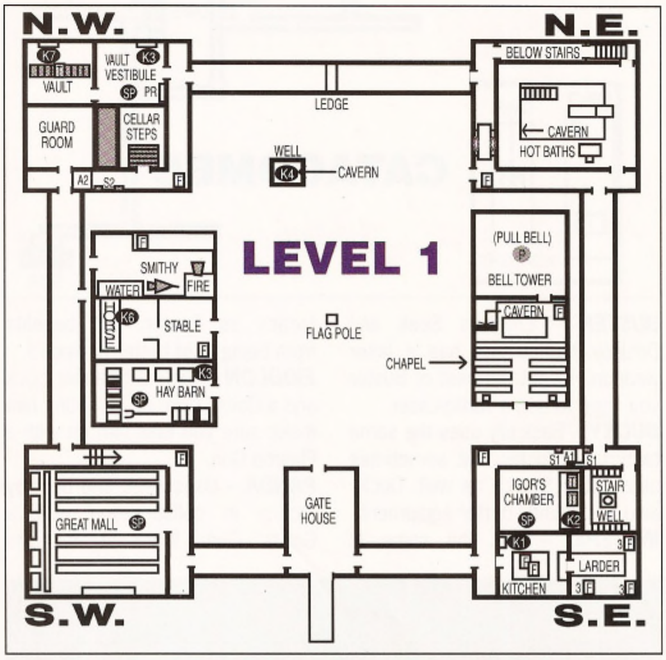
CASTLE MASTER

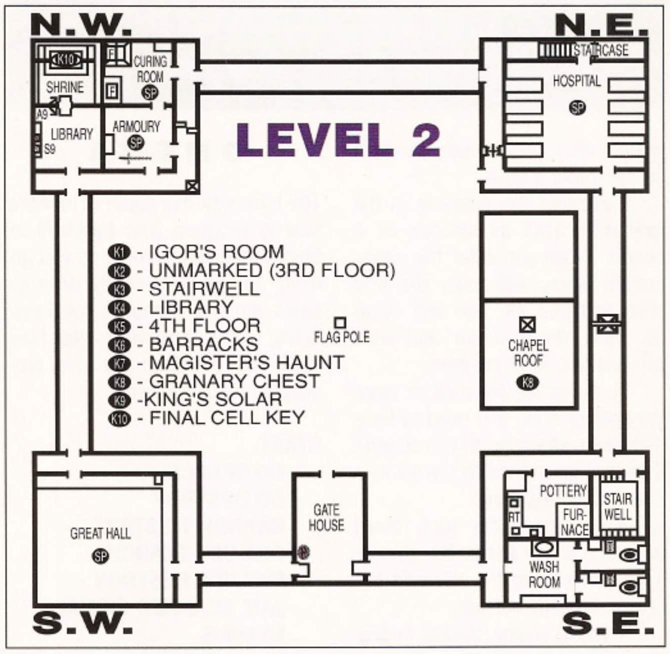
Incentive's 3D gothic dungeon adventure may have a lot of lovely rooms to explore, but that isn't much use if you get lost and wander into the claws of a demon after five minutes, is it? So what you need is some hints and maps to help you out. Well Lordy, Lordy – what have we here? Some hints and maps for *Castle Master*! That's handy 'Arry, stick it in the oven...

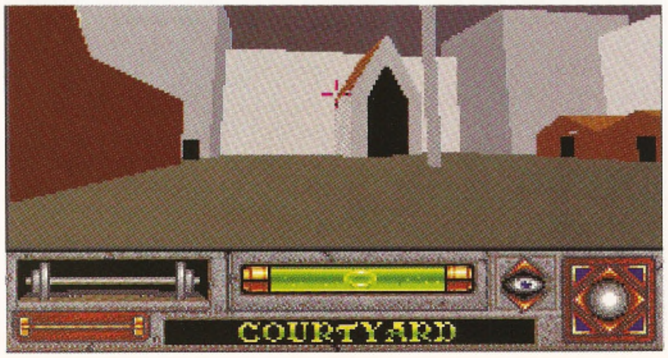
The key on the chapel roof can be a swine to get hold of if you don't know how to get up there. All you have to do is stand on the drawbridge and close it. You will then be lifted up, making it a doddle to get hold of the prize.

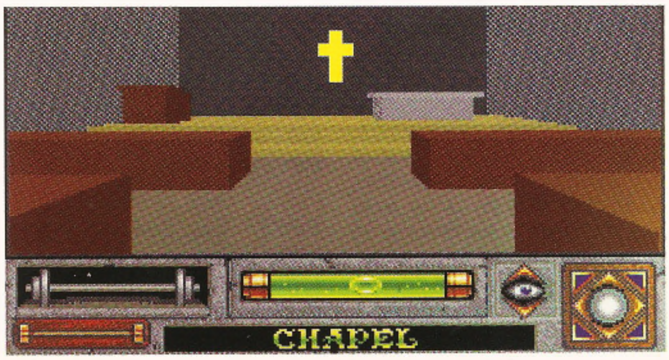
When trying to collect the pentacles in the caverns, fall down one of the trap doors and kill the spirit. Collect the first pentacle then go to the other caverns collecting the pentacles and killing the spirits. This will make the going easier if you fall into a cavern, since you're saved the hassle of tackling a spirit that catches you unawares.

To get inside the display chamber, crawl inside the granary chest and close the lid. Access is then as easy as falling off a rather









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damage it switches to Corner Search, so be ready to dodge out and blast it.

MIRAGE – The same tactics as Panda but with better equipment.

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GENERAL HINTS

You may need to do a few evaluations before you are successful, so don't be too disheartened if you fail at the first attempt.

Remember to authorise your tank if you change the chassis.

Once you've reached the end of the game and smashed all the competition, just for a bit of fun change the Viper's chassis to High-Standard and put your tank into a melee battle. Now just sit back and watch the fun!

Gareth Davies,
Norwich, Norfolk

NEVERMIND

Here is a list of the passwords to the first 26 levels of this strange, psychedelic Psygnosis 'adventure', but to be honest they sound like someone with a cold trying to eat a toffee!

0	MMMRHM
1	AMMRHA
2	HMMRHH
3	VMMRHV
4	PMMRHP
5	GMMRHG
6	IMMRHI
7	RMMRHR
8	MAMRHW
9	AMMRHN
10	HAMRHZ
11	VAMRHT
12	HMMWHH
13	CMMRHQ
14	IAMRHB
15	RAMRHF
16	MHMWHM
17	AHMWHA
18	HMMWHJ
19	VHMWHV
20	PHMWHP
21	GHMWHG
22	IHMWHI
23	RHMWHR
24	MVMWHW
25	AVMWHN

Lee Holmes,
Basildon, Essex

ANTHEADS

For all those B-movie buffs out there who have managed to conquer the original *It Came from the Desert* scenario and have progressed to the *Antheads* data disk, but are still having trouble cracking the case, here is a method of beating the formic foe.

DAY 1

Gather as much information from Biff and Dusty on the first day, but if you've got the information from previous games then don't worry, as it doesn't change.

Get into your car and go to the KBUG radio station. Dusty will tell you of the last ant attack to occur and will give you a Geiger counter and a gun.

Hang around for a while until the afternoon, then go round to the Platt University lab, where you will meet the boy Billy and his rather odd dad. When they start talking to you, ignore the gibberish that his dad speaks but listen carefully to what Billy has to say.

If you want further information then try asking the fortune tellers and expect to get home for around eight o'clock.

DAY 2

Go out to the KBUG radio station again, where Dusty will tell you about a threat from the G-men. Go back to the lab afterwards, where Billy once again provides some useful information.

At about one o'clock go to Neptune Hall, where you'll find that Billy Bob has managed to sprout a rather fetching set of antennae. Pull out your piece (that means your gun – this is a family show after all) and blast his antennae off. When he comes around he will give you an important number, so make a note of it.

DAY 3

You should wake up at 9 o'clock when Jakie comes round and knocks on the door. Unfortunately, your early-morning visitor is one of the Antheads, so get the trusty old gun working and write down the number again.

Go to the Ore Plant and befriend the manager by selecting choice A at the appropriate time. Take the train to section M-3 and do the business against the ants, then get back to the lab for some more useful info from Billy.

Go to the Police Station and get the old 'he must have must have tripped on his shoelace, your honour' treatment so you get knocked unconscious. When you wake up, the nurse will give you the position of the vault. Go to the vault and get the records containing the conversation process, then make a run for it.

DAY 4

Drop by at Elma's and when he becomes an Anthead blast his stalks to get the last number. Now you have all three numbers, try and get into the hospital any way you can (preferably without injury). Get the lift to the basement and find the morgue in the top right-hand corner – you can spot it by the four black slabs and the safe. Enter the numbers in the order you received them and you should be able to get the secret documents which will cause the realisation of the Antheads' existence, so now you can take them on face-to-face.

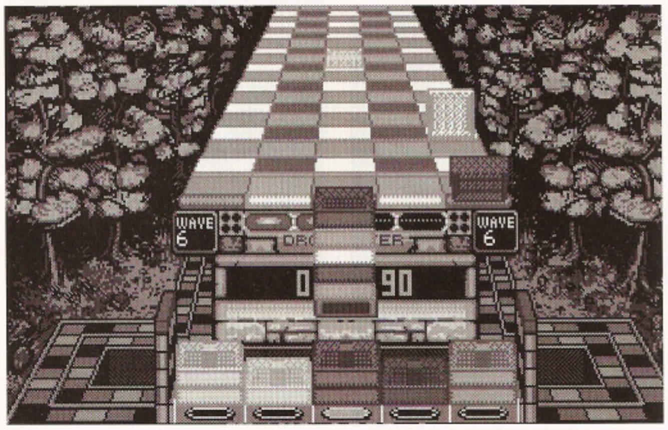
David Norfolk,
Watford, Hertfordshire

CADAVER
COVER DEMO

Looks like some of you were pretty impressed with last month's cover demo, since we've had a solution to the mission after only a couple of days! Kick up your Coverdisk and read on...

To start with, press the button on the West wall twice (North being top right), then collect all the objects in the room. Exit to the North and shoot the green slimy

KLAX

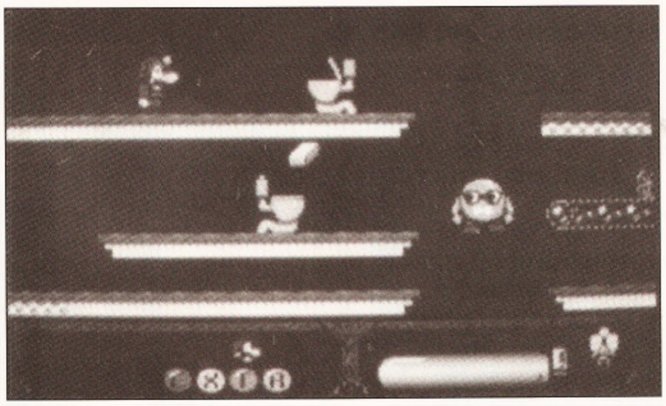


If you've already got coloured tiles spinning in front of your eyes from playing this too much and you STILL can't get to the last screen, then follow this advice. It could save you time and a massive optician's bill.

Hold down the space bar while playing and hit the '4' key (the one under the function keys, not on the keypad) and you will be magically transported to level 100 – the last wave. But you've still got to get those Klaxes to finish the game, so keep trying! He-he!

Ken Grassham,
Adel, Leed

MANIC MINER



Even the nostalgia value failed to redeem this from a harsh review, but if you have got hold of a copy, then here is a cheat that you may find rather useful.

Hit space to pause the game, and hit the * (asterisk) key on the keypad. Press space to start the game again and you should have nine lives. You can do this at any point in the game to stock up your chances. However, even with this cheat Mark can't get past the 'Miner Willy Meets the Kong Beast' screen (which we're sure is bugged). Just goes to show really, doesn't it?

Mark Lambourne,
Bicester, Oxfordshire

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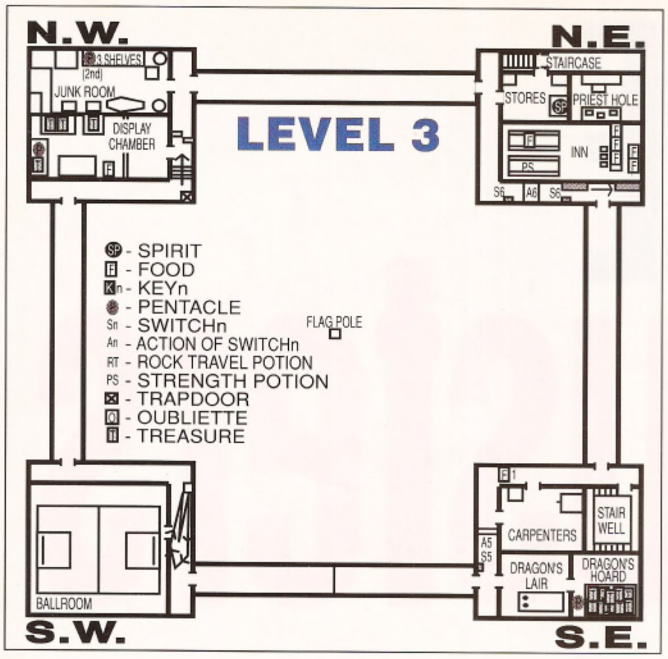
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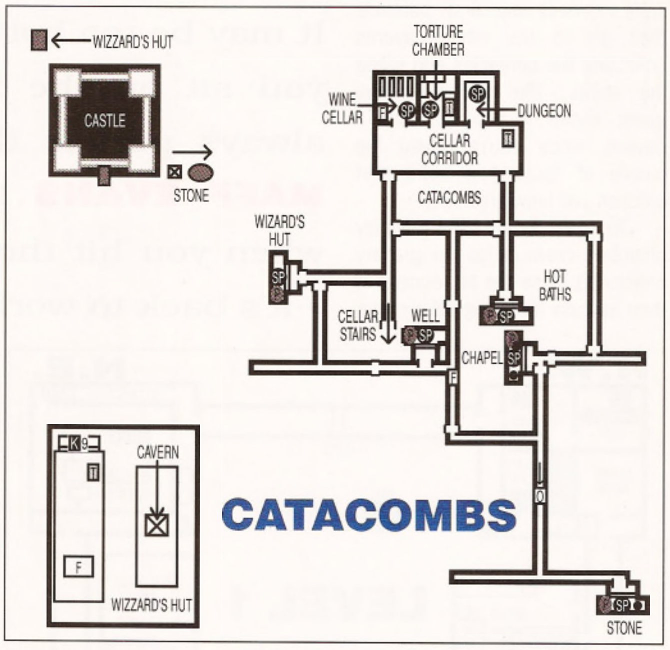
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wobbly chair precariously perched on the top of a table.

Collecting the pentacle in the junk room isn't as obvious as it seems. When you enter the room, crouch down, walk over the first shelf and into the wall and stand up. Now do a U-turn and walk forward to collect the item.

To move the big rock or open the pottery door, you need to have maximum strength. If you haven't then find some food to top up your energy then try again.

If you have the rock travel potion, you can get to the gymnasium either from the Wizard's hut or from directly outside.

If you're having trouble finding the spirit in the dungeon, then try looking for something else rather than the obvious. Still stuck? Well try that rat-like animal at the back of the room...

Now for the big baddy himself. To kill Magister, the evil owner of the castle, wipe out all the other spirits first. Now go to his room and blast him in the forehead to destroy him.

David Adams, Troon,Ayrshire

OMEGA

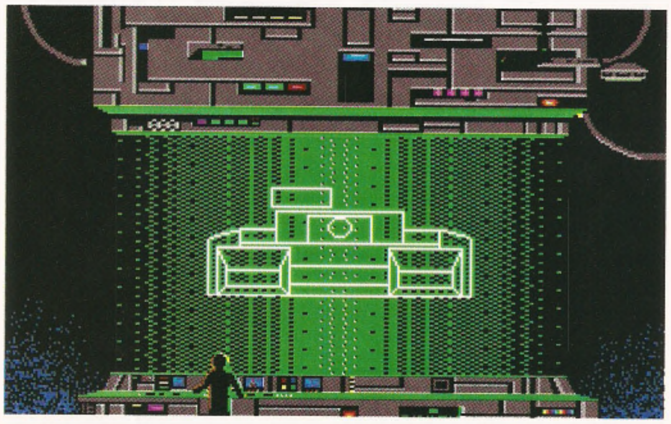
The trick with this game is to learn how to program your tank's AI to best effect, but learning as you go along can be quite costly. After all tanks are not cheap! If you keep falling foul of Dinky no matter how hard you try, then try this pre-programmed AI for size:

```
START
    DO SEARCH
    DO DESTROY
    BRANCH TO START
    INCLUDE SEARCH
    INCLUDE DESTROY
    JAM SCANNER SIGNAL
    RESUME
```

Don't worry if you haven't got a scanner – you only really need it when you get to Intrepid.

Here is a list of the various tanks and their tactics to help you plan your AI routines:

DINKY – Uses Seek and Destroy tactics.
DINKY2 – Uses the same tactics as Dinky, but is better equipped.
BUSTER – Employs Seek and Destroy tactics and has a laser weapon. To get the best of Buster you need to use a Turbo-Laser.
DUCKY – Basically uses the same tactics as Buster, but sometimes uses Edge Search as well. Ducky also has slightly better equipment.
INTREPID – Has the same AI tactics as Buster, but benefits from being a lot better equipped.
EIDOLON – Uses a Scanner Lock and a Gauss Gun, so in fghting him make sure you take him on with a Plasma Gun.
PANDA – Uses seek and destroy tactics in collaboration with a Gauss Gun. When it sustains



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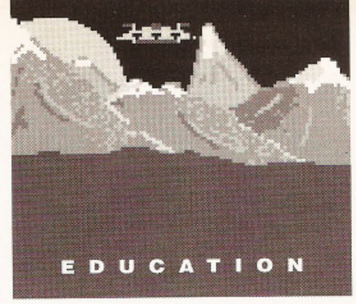
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to do. If there's one thing to motivate children, it's finding out something new for themselves.

THINGS TO DO WITH WORDS
Soft Stuff £19.95

What an uninspiring title for a useful teaching aid! Rather than depend on the usual "What is a baby hare called?", this program tries to get young children thinking about how to break sentences down into their meanings. Three totally different games are included.

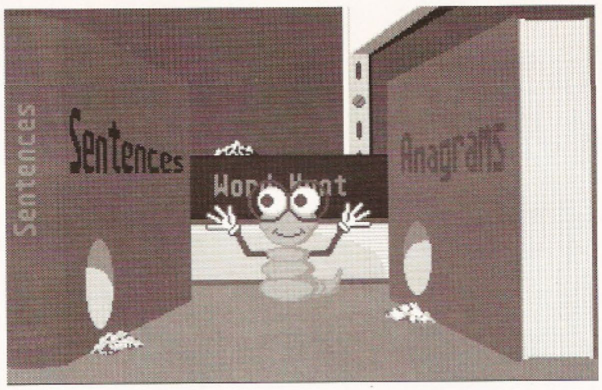
Anagrams takes a list of normal word, picks one at random and displays it as an anagram. Using the mouse to select words from an onscreen alphabet, the pupil has to work out the anagram.

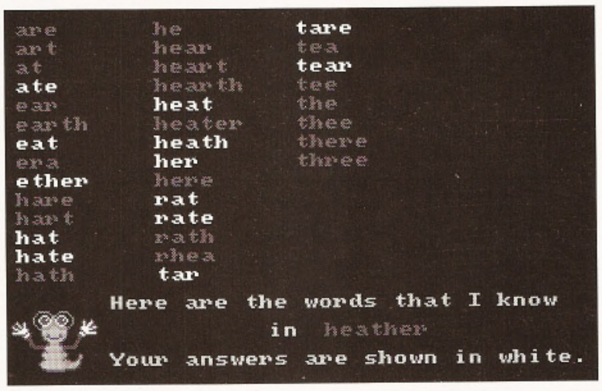
Sentences works on similar principles. A sentence is jumbled up onscreen, and the idea is to select the words into the right order. After a few unsucessful attempts the computer takes pity and puts everything into the correct order.

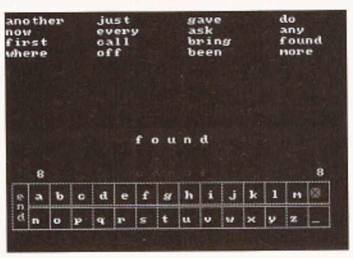
Word Hunt was my favourite. First, a word is selected from a list. After that, you have to make up as many words as you can out of the letters that made up the original word. It's not as easy as it sounds, but the computer will display all the possibilities, highlighting the ones you couldn't work out.

Conclusion

The way that the programs try to help you out is noteworthy, and the ideas behind the product are well implemented – everything is designed to get your child to think about written English, rather than learning by rote. Sometimes the 'End' icon is badly placed: I found myself getting thrown out of some sessions because the pointer was just touching it. That gripe apart, it's one of the better pieces of educational software that I've seen aimed at 5-12 year olds.







THINGS TO DO WITH NUMBERS
Soft Stuff £19.95

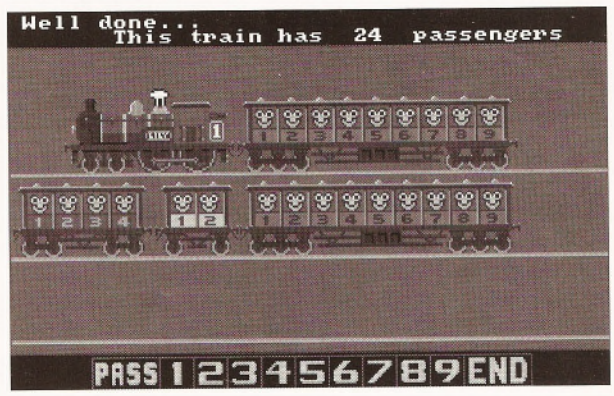
Soft Stuff strikes again with a short compilation of three programs designed to help children get better acquainted with numeracy. Written for children between the ages of five and ten years, it proved to be something of a disappointment.

The way of getting into each is a little bit strained. The Amiga displays a sequence of icons, one after the other. Depending on which you want, you hold down the right mouse button to select your choice. Why they couldn't have had a nice, simple Workbench folder with some cute logos I'm blessed if I know.

Time Teller helps children to practice their knowledge of the 24-hour clock system. A standard clock face is displayed with a time on it. The pupil has to enter the time in 24-hour format on a calculator-type keypad using the mouse.

Of course, to get it right you have to know whether the clock is AM or PM. This information is flashed on the digital clock face before a time is entered. The analogue clock face differs down to the minute, so it can be tricky to get it exactly right.

Train Fill involves putting the right number of passengers on a train. The



THINGS TO DO WITH WORDS

TOP: The Bookworm introduces the games.

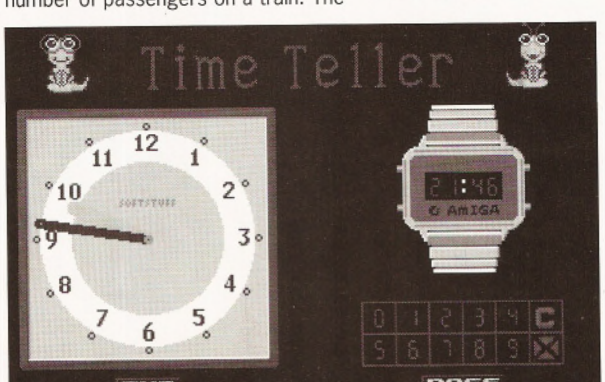
MIDDLE: Making words from 'heather' in the game *Word Hunt.*

BOTTOM: *Anagrams* is under way.

THINGS TO DO WITH NUMBERS

ABOVE RIGHT: *Train Fill* in progress.

BELOW: *Time Teller.*



correct number of passengers is displayed, and then you have to build up the train to that level. The difficult part is that you're only allowed to use certain numbers of passengers. For example, you might need to make a train of 33 travellers using blocks of four and three.

Book Search is more of a guessing game than real education. A grid of books is put up on the screen. From the bottom left corner, movement is possible a given number of steps to the right and up. Once there you can look for an errant bookworm who's hiding somewhere on the grid. If you're wondering just what you're looking for, the answer is a bookworm. Obvious really.

To help guide you, a thermometer is placed on the right of the screen, and it shows whether the guess is cold, warm or hot. When the correct hiding place is found, it overheats and explodes less than dramatically.

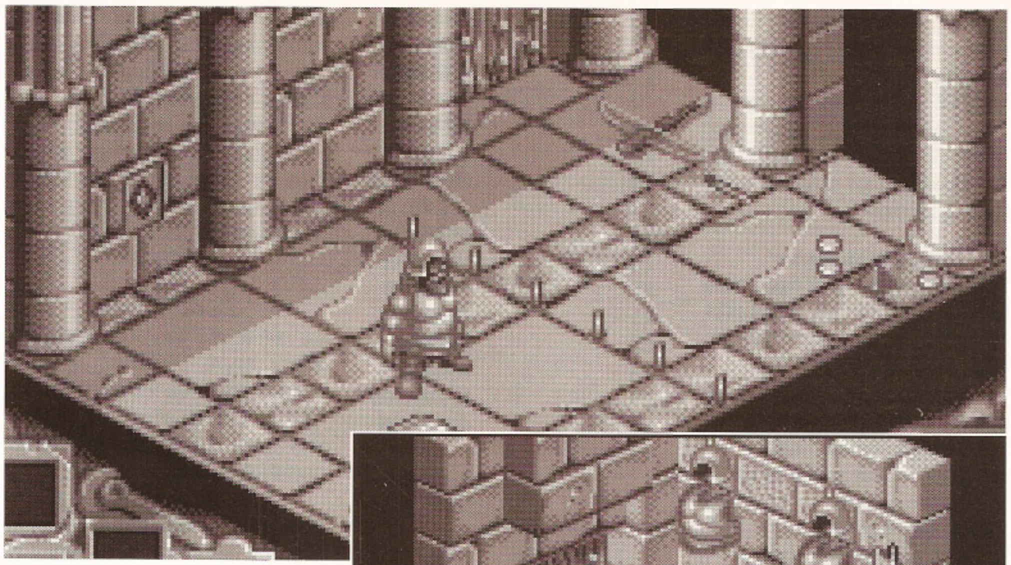
Conclusion

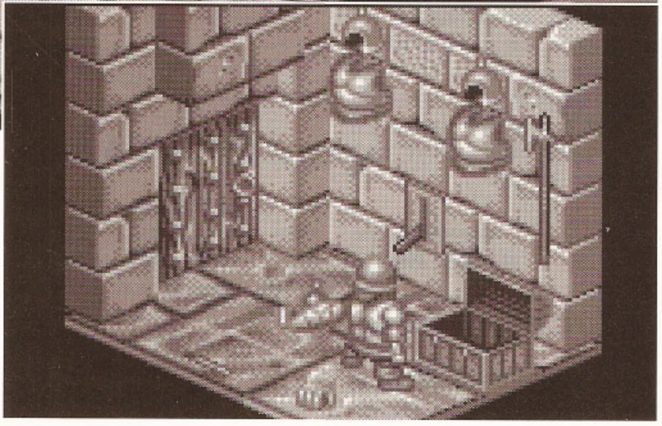
The whole package strikes me as window dressing. Yes, it can help children who don't know how to tell the time by a digital watch (there can't be many of those nowadays), who aspire to work for British Rail or want to be able to search a grid logically.

A child could probably get more useful skills from playing Battleships with pen, paper and a friend than from this lot. I can't deny that there must be some people it can't help, but the audience is surely much smaller than for many pieces of educational software.

Suppliers:
These are the 'phone numbers of the suppliers of the software reviewed on these pages.

Kosmos Software, Dunstable 0525 3942
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Soft Stuff Software, Tonbridge, Kent 0732 351234





thing twice with the crossbow, then collect the large iron key and go East to the Passage. Continue to the East into the Armoury and open the chest to collect the shard and the stamina potion. Next pull the lever and go back into the Passage once more.

From here take the South door into the Guard Chamber and go up the stairs into the Barrack Room. Ignore the slimy monster, as it comes back if you kill it. Once in the Barrack Room, take the stamina potion if you need it and exit North into the second Passage, taking the East door into the Captain's room. Jump onto the chest and push the trophy, which will cause a key to fall from the roof onto the bed. Jump down and open the chest, taking the money, the key and if you want to try it the Freeze scroll. Jump onto the bed and pick up the small, golden key and the shard.

Go West into the Passage and carry on West to the Guard's Hall. Leave by the West exit to reach the Upper Store, then go South to the Watch Post to get the key with the Gaoler's seal and also the sword hilt.

Go North back into the Upper Store and take the West door to the Cell. Pull the lever and jump down into the pit, then use the Goaler's key in the keyhole and climb up the chain.

Walk East twice to reach the Guard's Hall then South to the Trap Room. Open the casket and take the gem, then walk over the red circle, dropping the hilt and both shards. Collect the broadsword and go North back to the Guard's Hall. Pull the lever and run up the stairs, leaving the green meany that comes along.

Go West through the secret door to the Watch Room, take the parchment and open the chest. Take the money and get the potions if you feel like experimenting with them (sounds a bit dubious to me, especially in this age of Acid and Ecstasy).

Retrace your steps (East, East, Down and North) so that you get back to the Passage, then go North to the Outer Stair and take the brass key. Go back to the main Passage (where you started, which should be South, West then South), and take the West door to the Stairway. Unlock the North door with the brass key and go through the door to the Store. Open the chest, take the gem then pull the lever and jump down the hole. Once you're at the bottom, jump up, leave by the West door to the Stairway and take the gem.

Go up the stairs to the Ward Chapel, then go to the Outer Stair (which should be North, East, North, East and finally North). Push the broadsword into the slot on the West wall, then put the three green gems in the triangular hole in the North wall in the correct order (to take away one spike at a time). Climb the steps to the West (to the main Passage) and take the coin. Fall off the platform and put the coin in the slot on the West wall. Then go East then North to the Outer Stair once again, then West up the stairs to the main Passage and finally North to finish the mission.

You should now finish with the status ratings of...

Health – 100%, Gold – 423, Experience – 835 and 99% of the mission completed. What about the other one percent? Well you'll just have to wait until the full game is released, won't you?

John Taylor,
Wisbech, Cambridgeshire

IVANHOE



Forsooth sirrah! Methinks that there are a mite too many dangers to fight through on this medieval romp! Verily, never more shall ye be at the mercy of the fearful foe! Just push on thine keyboard the key that shall pause the game and scribe the word ZOBINETTE followed by the Return key. Now thy can just press the key inscribed with an N to magically transport thyself to the next level. Now is the winter of our discontent made glotious summer by this handy tip...

Philip Grant,
Newcastle-Upon-Tyne

WINNERS!

Loverly, scrummy software vouchers this month going out toooo... David Adams for his marvellous *Castle Master* maps, John Taylor for the nicely typed *Cadaver* Demo solution and Gareth Davies for his monstrous *Omega* hints.

Feel like you've got a tip, hint or map that we may be interested in? Then send it in to **GAMEBUSTERS, AMIGA FORMAT, 30 MONMOUTH STREET, BATH, BA1 2BW.** Oh and ***PLEASE*** include a phone number if it's at all possible, we may need to get in touch with you. After all, if you've won a prize you want to make sure you get it don't you?

By the way, we're still interested in good maps sent in on disk, 'cause they look ever so nice in the mag. So get those copies of *DeluxePaint* working and send them in!

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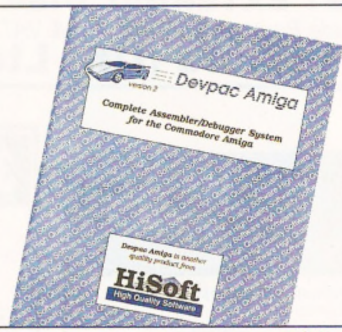
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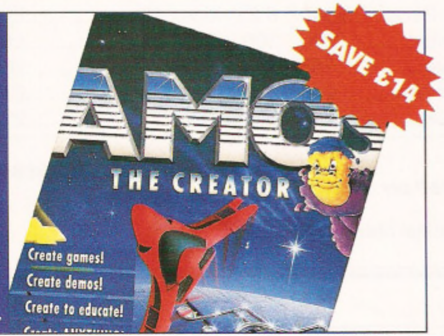
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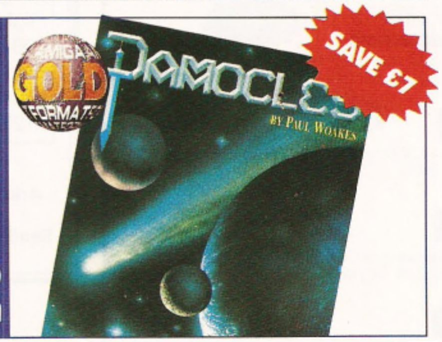
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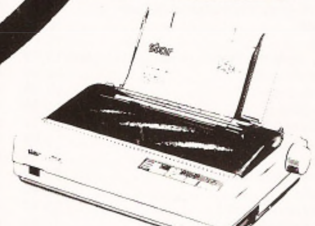
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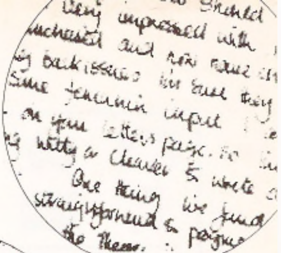
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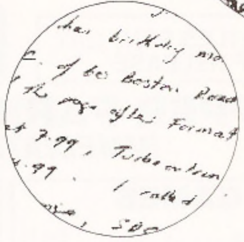
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Letters





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S J A Clark
Birkenhead, Merseyside

Disk Lebensraum

We recently purchased the Amiga 500 Batman Pack for programming and graphics. We like drawing in *DPaint* but now, after saving a few paintings, we found when we want to save another one, a requester appears saying '*DPaint* is full'. We have this same trouble with the Extras Disk. Is there any chance of putting our paintings or programs on a blank disk (a backup menu) instead of making more copies of *DPaint* or Extras? Or do we need more meg?

Dominic and Emil Rowe
Tadworth, Surrey

You can save files such as those from DPaint *onto any blank formatted disk – you shouldn't save them onto the master disk as there is always a great danger of corrupting it. The instructions for saving files and formatting disks can be found in the manual.*

Address your communications to **BOB WADE** care of **30 Monmouth Street, Bath, BA1 2BW.** If it's good enough to be printed and escape the Origami treatment it could win you a T-shirt and binder.

In a Bind over Binders

I have been reading *Amiga Format* since it split from *ST/Amiga Format*. Now I have 12 issues and a binder to keep them in. But if you keep making the magazine bigger, how can you expect us to get them into the binder? At the moment I have 10 issues in the binder but have trouble with the last two. Any suggestions that might help?

Andrew Gebbie
Ferniegair, Hamilton

A few days ago I received my copy of the July issue of *Amiga Format* – without doubt the BIGGEST EVER! as you so rightly assert. I have been a reader since Issue 1 in July 1988 of *ST/Amiga Format* and still have 13 issues of this publication as well as the first year's copies of *Amiga Format*.

12 copies of *ST/Amiga* fit easily into your binder (or they did 12 months ago) but, try as I might, I cannot fit 12 copies of *Amiga Format* into my current binder.

I must admit the July issue got slightly wet in the post and possibly swelled somewhat, but alas I cannot complete this final copy in its binder. My fingers are not as supple as they might be for I must be one of your oldest readers – well past four score years and ten! Is this a record?

Don't make your magazine smaller, try to increase the capacity of your binders, for it is undoubtedly one of the best computer magazines on the market. Long may you prosper. NIL CARBORUNDUM ILLEGITIMAE!

Vic Eva
Cleveleys, Blackpool

When the original binders were ordered we did not foresee the explosion in the size of AF. However, we are now ordering wider binders into which you should be able to fit 12 issues.



IN A BIND OVER BINDERS: Mark would seem to be having trouble fitting all his copies of *AF* into one binder!

United they Fall

I noticed that on the inside cover of Issue 12 you had the word 'Football' to indicate your article about said game on Page 81, but above it was a photo of Leeds United playing Sheffield United. I have tried very hard but I can't quite see the connection. Was it perhaps an in-joke?

Matt Greenslade
Keynsham, Bristol

Dangerous words when both those teams have been promoted to the First Division – are you perhaps a City or Rovers supporter?

Going Public

Having just received my subscription copy of *Amiga Format*, and having read the article on Business Software there was one item raised in the article which I thought I should comment on.

In the glossary of terms to that article, it refers to a public company (PLC) as one whose shares are traded on the stock exchange. This is not the case, and for a private company to convert to a public company only requires some technical adjustments to the company's articles of association and a minimum share capital.

Unfortunately, many people are confused by this (as I suspect the author of your glossary was), into thinking that a public company is rather more substantial, and, by implication, more secure than a private company. This is certainly not the case. Many small companies are converting themselves to become public companies so that they do appear to be rather more than they really are and certainly a number of computer suppliers are adopting this approach.

I would not want your readers to think that dealing with a company with the letters PLC after its name automatically means more security than dealing with a private company.

M J Hagen
Spicer & Oppenheim, Bristol

Fastism?

What the hell is going on? I saw the FAST adverts (p189) in the July edition asking people to pass information on to FAST and I am absolutely appalled.

Have we really gone back to the days of Hitler Youth when children reported their own parents and family for rewards. I have read *AF* since day one, but I will have to seriously reconsider buying any future issues.

I am bloody disgusted with this advert and ask you to set aside any profit you make from this advert and withdraw it immediately. I have sent a letter to the trading standards association to see what the rules are regarding threatening letters of this type.

An AF Reader Concerned for Human Rights

FAST adverts are run for free in an attempt to combat piracy – we get no revenue from them. I think your reaction to the ads is overly dramatic because they are clearly targetted at a particular criminal activity and one which will require proof of guilt. We are not talking about any form of racial, sexual or religious persecution.



FASTISM? The offending advert in full. Is FAST a good cause, or evidence of a return to the values of the Hitler Youth?

Fear and Loathing of Disks

I have just finished reading the July Issue 12 of *Amiga Format*, a thing I have become increasingly loathe to do. The reason for my disaffection is disk problems and the procedures for replacement of them. I have returned two disks in the last few months and have yet to receive replacements or even acknowledgments.

I did follow the directions given for replacements and accepted the fact that there were bound to be some defective disks in the thousands made. I will even accept that it was just bad luck that it happened twice to me, but it is stretching my patience to think that both disks were lost by the Post Office and you did not receive either of them. Your comments and replacement disks would make me, again, a regular reader or even subscriber.

Peter Black
Stevenage, Herts

We have just changed disk duplicators and no problems should be encountered getting replacements, but getting copies of older disks is more of a problem – we'll chase up your disks and try to get copies sent to you.

Gis a Job!

I have seen quite a few advertisements in the magazine lately advertising for programmers and graphic artists, a notable one being the Ocean advert on Page 154 of Issue 12. Quite a few of us 'normal' people are not programming experts like Dave Jones. Even less of us can be considered as really good artists such as Jeffrey Hilbers and Jeff Godfrey of *It Came From The Desert* fame.

But what most of us have a good chance of doing is designing. Of the three, designing is the cheapest and most available to people with half a decent imagination and an extra twist to make a good game, such as Mike Singleton, who is also blessed with programming talents. (How about doing *Eye of the Moon* for the Amiga incorporating an overhead world editor?)

Personally, I think that the design of a game is as important as the graphics, programming or sound because once the initial impact of these slick effects have passed you by then the game begins to show its true colours. I have heard that this was the case with *Defender of the Crown* although Cinemaware have become much better since then. Perhaps, as well as advertising for programmers and graphic artists, why not run a competition along the lines of programming or game design with the prize being the demo or game design being turned into a full price or budget game (complete with royalties) as the top prize amongst others for runners up.

Paul Chan
Halifax, West Yorkshire

Over the Rainbow

Just a few lines to ask why *Amiga Format* has missed out on some of the more interesting reports and articles I've seen recently?

The interview in *Psychiatric Puzzler Weekly,* in which they had an in depth interview with Bub (or was it Bob?) of *Rainbow Islands* fame, is a case in point. The deep trauma of constantly being attacked by every denizen of this game while upholding the right of every Western brat to be upwardly mobile, hardly makes the rewards of cake, fruit and designer trainers seem worthwhile. It now seems it may take years of psychiatric counselling before he will be able to overcome his multiple persecution phobia; in which he believes all spiders, snails, worms and newly-hatched birdies are out to kill him.

This persecution complex, together with his rabid hatred of Judy Garland (who he claims sings to him in his sleep), should be brought to the attention of your readers, who will then see how this innocent wee lad has been psychologically damaged for the sake of careless entertainment.

Another article you might care to read (I think it was from the September issue of *Yuppie News* (remember them?), claimed that Dennis Thatcher has an old Dragon? Do you know of any other famous computer games addicts?

E A Jones
Birkenhead, Merseyside

Wears a Mac?

I am writing to you for details of any Macintosh emulators available for the Amiga. I know similar hardware is available to emulate the IBM PC courtesy of Bitcon Devices, but I haven't been able to find a Mac emulator for the Amiga, although they seem to be in abundance on the Atari ST.

R J Drayton
Welton, Lincoln

There is a Mac emulator called A-Max which is about to be upgraded to A-Max II, so check out the News pages in this issue for more details on it.

It's Only a Wind-up

I wonder if you could help me? I have had my Amiga B2000 (with hard drive) for three years and I am still wondering about some of the Amiga's fantastic functions:

1. What does a hard drive do exactly? I have managed to put a small window on it. That's just about all so far, though.
2. What is a GURU meditation exactly? My friend tells me that it is a practical joke put in by Commodore.
3. What is a startup-sequence? Is it when you turn the Amiga on?
4. I have heard that little computer people are real. Someone told me that I have an LCP called Fat Agnus.
5. What is fast? Is it similar to fast format on *XCopy 1.3*?

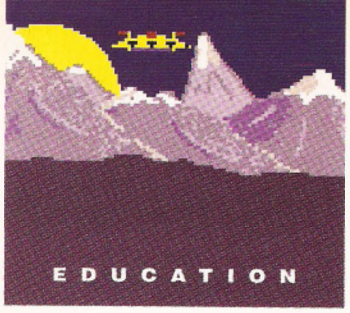
Please help me as I am quite desperate to know the answers.

Andrew Ayrton
Arkendale, Nr York

1. A hard drive allows you to store great amounts of programs and lots and lots of data.
2. It's just a very Californian way of saying your Amiga has crashed in a like totally terminal manner... man. Most heinous.
3. Yes.
4. Someone was winding you up.
5. FAST is the Federation Against Software Theft.

A Word about Words

A word in your ear if you do not mind. Us 40 year-olds are past playing games, well, all the time anyway. What I would like to see is an in-depth look at some of the more professional packages such as I am using – *Protext.* With *Protext* there are some examples in the manual for you to type in and try such as the examples to do with mail merge and template files, however, it can be quite complicated to understand the



If you want you can change the questions, making up your own quizzes. This is quite useful as one of them is now outdated on the Senior version: George Stephenson is now on the back of a fiver, not the Duke of Wellington. New quizzes can be saved onto disk and quizzes from either version can be freely interchanged.

Conclusion

There's nothing outstanding at all about these programs. They strike me as cheerful and honest, though, scarce commodities on the Amiga scene. If you're looking for a quiz program for yourself or a young child, then Kosmos can supply the goods.

Given the Amiga's capabilities, though, it has to be said that it wouldn't be at all difficult for another company to write a much better program. It's debatable whether any rival company is really that fussed.

PROF PLAYS A NEW GAME
Prisma Software
£29.99

This is part one of the "Play and Read" series. It has a modest goal – to teach a child a simple vocabulary of 63 words. The way it goes about this task is a bit complicated, so I hope you're sitting comfortably...

First off, you have to get the pupil to listen to the included audio tape. This was recorded by Patricia Hayes in a very twee little-girl voice and was found to be dangerously tedious to adults. However it does introduce the ideas of reading very well to a non-literate child.

Then there's a game of five sections that is played on the Amiga. All that's required is to guide a little red man around a few boxes onscreen, using a joystick and/or the keyboard. He has to match words, which means running up to it, pressing the spacebar, and then finding the duplicate which is somewhere else on the screen. And pressing the spacebar again to make contact.

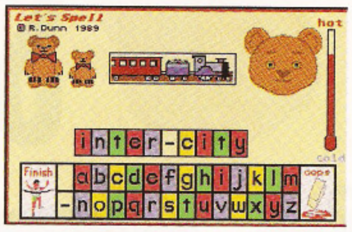
The Amiga tells the player just what this strange word sounds like. This is the crux of the program, it's what the game is all about. Believe it or not, the object of the whole exercise is to get children to read books.

Once each game section is complete, whoever played the game should know all the words used in the relevant picture book which are all included in the box. The first three books each teach nine words, whereas the last two will hammer in 18 new ones.

LET'S SPELL

RIGHT: The nitty-gritty of the game is having a guess at the word that matches the object in the middle of the screen. The teddies and the thermometer will give help.

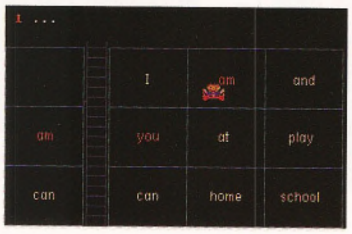




PROF PLAYS A NEW GAME

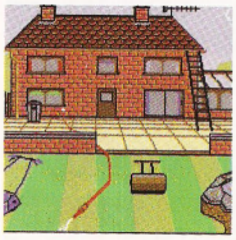
RIGHT: The actual game is a process of matching up words.

BELOW: A selection of the reward screens.











Conclusion

The game part of it seems pretty mindless to adults, but children don't tire of it so easily. Mind you, they don't have to select each word once, but many times. This makes it doubtful that a child would finish all the books without a great deal of adult encouragement.

On the other hand, if your child doesn't show much enthusiasm for reading, then this particular piece of educational software could give them that spur – but only if you're willing to put the hours in too.

LET'S SPELL AT HOME
LET'S SPELL AT THE SHOPS
Soft Stuff
£19.95 each

As if you couldn't guess, these two are designed to help young children with their spelling. Interestingly they're for children between the ages of four and nine, which is quite a gap as far as spelling is concerned.

Depending on the location (*At Home* or *At the Shops*) the Amiga kicks off with a picture of all the places you can visit. So, down at the shopping mart, you can visit a DIY store, a clothes shop, a traditional toymaker's or a greengrocer.

You move the figure of a girl to the relevant place, and the view turns to the inside. Once you're inside, then you can select different objects laid about the shop. The screen magnifies on the object, and this is where it gets a bit complicated...

Let's assume that the pupil has walked into the toyshop and clicked on a puppet. Apart from the magnified view of the puppet, two teddy bears and a teddy's face are displayed, along with an alphabet. If the child isn't very good at spelling, clicking on the small teddy will switch to simple mode.

The word for the object is displayed, and the child has to select the right letters. If a letter is correct, then it will be filled in. So, the child will gradually pick up what the word is for each object.

Clicking on the big teddy will mean that the pupil has to guess the word in full. To help them, pressing the nose of the big teddy will display the word. Another help option is a thermometer. This can be switched on or off, and when on will tell children if they're hot or cold when selecting the next letter.

Let's Spell at Home is virtually identical, except that the locations are all based around a house and the objects are everyday household items. So sending the girl round the back of the house will bring up such objects to guess as a lawnmower or a garden hose.

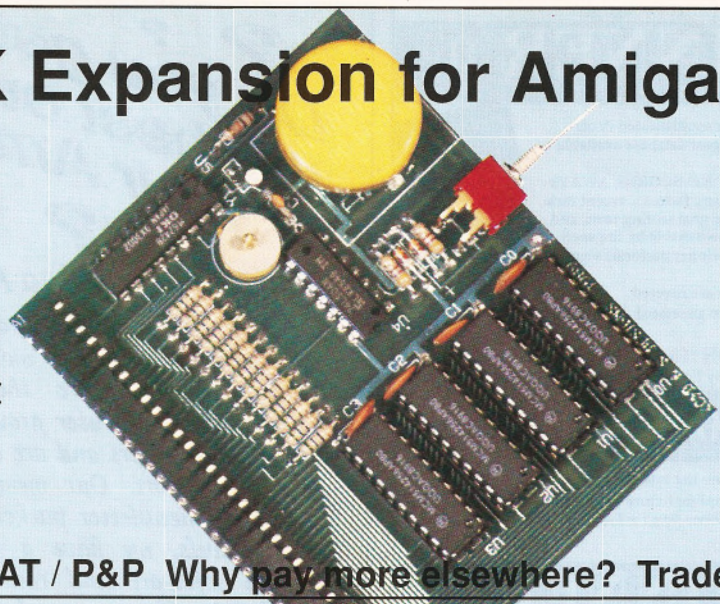
One nice thing about the series (there is another one from Soft Stuff called *Let's Spell Out and About*, but we haven't a review copy yet) is that they're integrated. If the child gets bored of looking round the shops, by putting in a disk from one of the others in the series they can go straight to the relevant scenario without having to reboot the Amiga. Nice touch.

Conclusion

It sounds a bit clumsy, but this system is really just a computerized version of a coloured, illustrated spelling book. Based on a principle like that, it should be a real winner. The ability to cope with children who don't know a lot about the alphabet is another well thought-out aspect of it.

It has to be said though that the onscreen help is difficult enough for an adult to understand. You're going to have to spend some time with the child getting them used to how the system works. Once they've learned that, there's quite a lot of exploration

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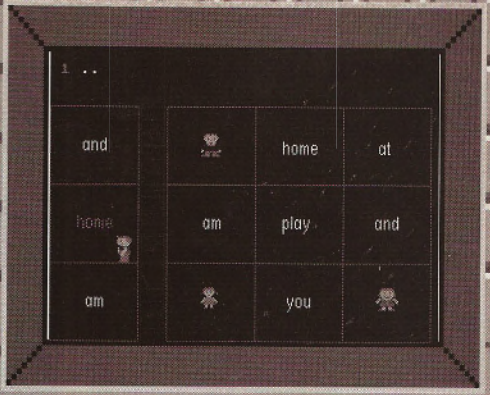
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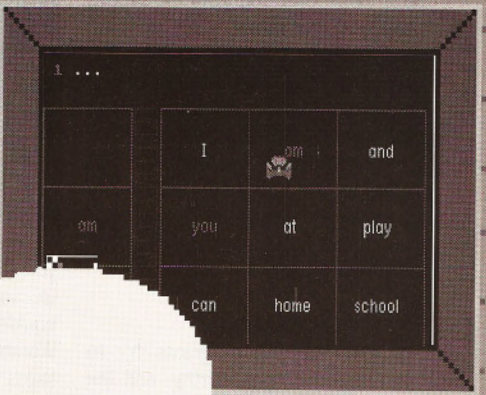
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Educational software is a real growth area on the Amiga and in the forefront are Prisma Software with their *Play and Read – Learn to Read with Prof* series. On the preceding pages you'll find a review of Part One, *Prof Plays a New Game*, and here you have the chance to win the next in the series – *Prof Makes Sentences.*

Prof Makes Sentences introduces to children the art of creative writing, where Prof the cartoon character is on hand to help and give a few surprises along the way. Children may not run straight off and start penning Shakespearean sonnets but they will have discovered that writing sentences can be fun.

There are 20 first prizes of *Prof Makes Sentences* and for 50 runners-up a £5 discount off the purchase of it. All you have to do to enter is answer the three questions below about *Prof Plays a New Game* – all the answers to which can be found in the review on the preceding pages.

HOW TO ENTER

Write the answers to the following three questions and on the back of a postcard or stuck-down-envelope and send it to: **Prof Comp, Amiga Format, 30 Monmouth Street, Bath BA1 2BW.** The entries should reach us by September 17th and don't forget to include your name, address and phone number on the postcard.

QUESTIONS

1. How many books are included in *Prof Plays a New Game?*
a) 2
b) 4
c) 5

2. How many words will children be able to read after completing *Prof Plays a New Game?*
a) 50
b) 63
c) 62

3. Which famous actress reads the story on the cassette?
a) Patricia Hayes
b) Meryl Streep
c) Thora Hird

RULES

Employees of Future Publishing and Prisma Software are not allowed to enter. The judges' decision is final. No correspondence will be entered into.



plonker for writing such utter rubbish. We are all entitled to our opinions but this letter really got up my nose. To suggest that computer games were violent is not true at all. I am a father and have a son of 17 and we have had a computer in our home for some five years now and I firmly believe that if a child receives from an early age the love and security that a child needs and this is maintained throughout their childhood, then you will, in most cases, bring up and into the world a perfectly normal child, even though that child may well enjoy blasting aliens to hell.

Parents like to go out for a drink to meet others and let off steam and children need to also. On the subject of the games themselves, I have occasionally played games on our computer and I fail to see what is harmful at all. The game may in a lot of cases be from a film but is hardly frightening or disturbing as the film may be. To me the fun that the player gets out of the game is to win and that is something we all want to do throughout our lives. I also firmly believe that the games in themselves are a great source of entertainment and make the player use the human brain to find the clue or work out the game play to win which, in the end, helps to develop the mind.

To sum up, too many children today are left to get on with their own lives and create their own world to live in instead of supportive and loving parents to guide them, but so many are bought expensive toys and left to get on with it so the parents do not have to bother.

Martin Fryatt
York, North Yorkshire

Sorry that my first ever letter to a magazine has to be one of complaint but it is. I am writing to complain about the letter written by Dr Bell in *AF* 13. I am annoyed with him and his 'Child Psychiatrist' point of view and so I thought that I would defend the side of the children, being somewhere in the middle at 14. While it may be more likely for children, indeed anybody, to be more aggressive after watching violent films, I find it very unlikely that shooting pixels to pieces would have any bad effect on a child's mind. Indeed, I have known it to have a very good effect on them as they get rid of all their aggression on the computer screen and have none left at the end.

Dr Bell says that almost all of the children with emotional or behavioural problems had experience of great marital disharmony and computers. Most children nowadays have home computers. Anyway, is the computer not used to block out the real world of arguments, like books and television have been before the computer was invented? People with troubles will always try and find some form of escapism, and a computer is more interactive than a book. When you are reading an Agatha Christie you don't then go out and murder someone and so I see no reason why you should play *Barbarian* and then get up, buy a sword, cry "eeee yich" and chop someone's head off. Total rubbish.

Dr Bell sounds to me the sort of person who will, as I have stated my age, believe that I am 'only a spotty adolescent who is just bad tempered because he is going through the crises of adjustment' but I want to set Dr Bell straight. Thanks for listening because I really feel that children have been getting a raw deal as there is no one to speak for them.

Ben Gribbin
Piddinghoe, East Sussex

PS My mum has got a degree in child psychology and she thoroughly enjoys the computer too.

On the letter headed "Problem Children" from one Dr Bell:
1. I agree with you that most children have an excellent grasp of the difference between reality and fantasy.
2. Unreal violence is usually tension relieving (you can take your frustration out on a game without hurting anyone).
3. Dr Bell's reference to Hungerford is both inappropriate and irritating. It has to be emphasised that Michael Ryan was clinically insane – no one could plausibly blame that on computers, which appears to be the implication. This is in fact similar to the way that some elements of the press attempted to blame Hungerford on RPGs (the dice and pieces of paper variety, not on computers). Since one of my other hobbies is roleplaying, I did some research into this claim, which was based entirely on a letter which Ryan supposedly received from a PBM (Play By Mail) RPG company, telling him to go out and kill.

This would all be well and good – except that the letter does not and did not exist. It was a complete fabrication.
4. Dr Bell's casual remark "Legislation re both professional and public domain software is needed", is probably the most frightening aspect of the letter – I would suggest the he read Allaister Crowley, or if this is not possible, here's some I prepared earlier: "Do what you will is all parts of the law".

To be rather more blunt – in my opinion, legislation is never needed, and indeed should be actively fought against.

S J A Clark
Birkenhead, Merseyside

Having read Dr A J Bell's letter headed "Problem Children" in Issue 13, I feel I must comment.

Dr Bell said that, currently working in the field of child psychiatry, he has noticed two common features among children with emotional and behavioural problems. Firstly, that they are often from homes in which there is marital disharmony and separation and, secondly, that they almost all possess home computers.

Come on, Dr Bell, that is hardly scientific. Should you care to look among a 'control' group of, say, children *without* emotional and behavioural problems, I'm sure you'll find that almost all of those children *also* possess home computers. Home computers are very common. Especially C64s, Amigas and Spectrums.

On that basis, suggesting that children are disturbed because they possess home computers is like saying that they are disturbed because they have two legs, which I am sure almost all of the children you have studied also possess.

That rather important point aside, Dr Bell does make some reasonable comments about computer violence, although I cannot entirely agree with them. Certainly, in my opinion, it is not computer and video games that are responsible for breeding a violent culture. Perhaps, in some way, they reflect it, but I agree with Bob Wade's comment that, generally, children are perfectly able to differentiate between zapping aliens in escapist computer games and real life. In fact, I would go so far as to suggest that computer games may, in many ways, act as a reasonable channel for pent-up "hostility" that is far better spent zapping a few imaginary aliens than beating up grannies or destroying other people's property.

Of course, modern technologies have had their effect on human behaviour – none of us who have ever sworn at British Telecom would have done so if the telephone had not been invented! However, if anything, I feel that it has been the likes of television news coverage that has done most to cultivate an "increasingly violent culture", rather than violent computer and video games.

Through the shock-horror-serious-expression-aren't-we-a-caring-nation coverage of the world's disasters and horrors, we have become de-sensitised to horror, violence, war, murder, disaster and deprivation. How many of us can now look at pictures of starving children in Africa and really and truly feel as appalled as we may have done, say, ten years ago?

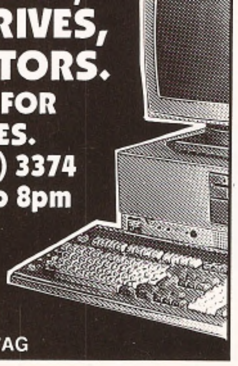
I accept that "observational learning" is a true phenomenon and that children pick up behaviours and attitudes from their environments but I do not accept that computer games, generally, present either behaviours or attitudes. They are simply there.

Although I am not a personal fan of either "Rambo" or martial art-type games, I do not see that they present an attitude that children are likely to blindly copy. Children are more likely to copy the attitudes of people around them than copy a cartoon sprite in a computer game that they are forced to turn to when, perhaps, their parents don't give them the attention they deserve.

Kevin Patton
Hemel Hempstead, Herts



PROBLEM CHILD: Is there really a danger in computing and can we do anything to save the souls of a lost video generation? The debate heats up.



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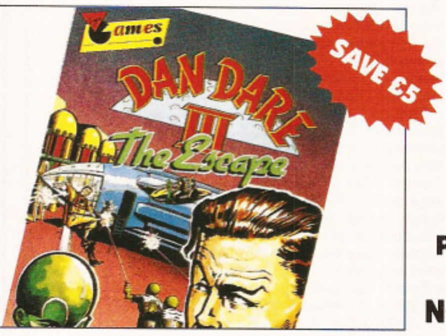
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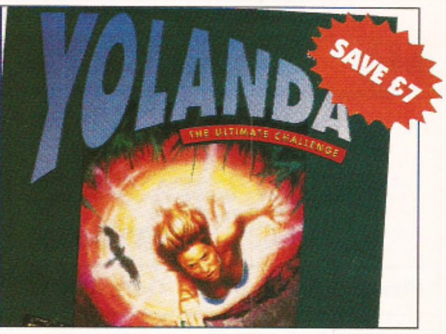


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programming type commands and I am sure there are lots of people out there who would love to have full coverage on these subjects to enable those of us who are not so technically minded to understand the product they are using more.

The examples could be put on the Coverdisk which would save time typing in. As well as other word processors, you could take a look at some spreadsheets and databases.

Martin Fryatt
York, North Yorkshire

Tutorials are one of our favourite things and wordprocessors are overdue for a good going over. There are a couple of new ones on the horizon, so expect to see a piece on them in the near future.

Where's Wonderboy?

Is the original game *Wonderboy* still available? If so, could you give me addresses from where I could purchase it.

Also, is there a cheat for *X-Out*? If so, could you tell me because I am very frustrated. The reason is that I have seen various cheats and none of them work!

Ioan Dyer
Carmarthen, Dyfed

Wonderboy is available from Activision, who can be contacted on 0734 311666. The cheat for X-Out *is to buy the most expensive ship and the cheapest satellite, then discard the satellite over the horned beastie on the right and you'll have loads of cash.*

Dutch Guru

To my surprise I read in the last issue, the Guru Meditations isn't much appreciated!? I want a fan club for this great page right now!!!

Is it because I live in Holland I like this page? Do the British not have any sense of real humour? I have also a great tip for the people who don't like this page: Eat it! (I heard Mrs Thatcher liked the strawberry taste in the last issue!)

R Nikkessen
Bergen, Holland

Bee Bo Loony

I am writing to you in a state of considerable excitement having designed a game which will run on *any* computer which uses a 3.5 inch floppy drive! Also, it is very difficult to pirate and, miraculous as it may seem, this intensely addictive game can even be played with the computer's monitor switched off.

The game is called "Bee Bo Bertie" and runs as follows: All you have to do is take a 3.5 inch floppy and slide the little metal cover back. Take a felt tip pen and carefully draw a face (Bertie) on the useless brown stuff inside. Now let the metal cover ping back into place and insert the disk into the drive. After a few moments remove the disk and slide the cover back. WOW! Chances are, Bertie has disappeared. Keep putting the disk in and then removing it and sooner or later Bertie is back and the whole family can shout "Bee Bo Bertie!"

Of course I realise that the felt tip's ink might not agree with the head in the drive but I have found that a little dab of Superglue on a cotton bud, inserted into the drive first, will prevent the head from moving and damaging your Bertie disk.

Incidentally, Superglue is very useful for keeping your collection of disks together. Just glue your floppies into one wodge and use a chisel to prise them apart when needed. Simple.

William Mobberly
Wallington, Surrey

You don't by any chance work for a company that repairs Amigas do you William? (NB DON'T try anything William suggests – he's obviously sprained all his brain cells.)

Leaping from Tree to Tree

I have been reading your magazine for several issues now, and thoroughly enjoy all the information in it. However, I have more than a few questions on what is happening with the Amiga (and software for the Amiga) in the UK. So, instead of wasting the pages of your magazine with thousands of questions, I wouldn't mind exchanging information with some of your readers. I will definitely respond to everyone who cares to write to me.

Gerald Bird
1413 Wascana Street
Regina, Saskatchewan,
Canada S4T 4J6



DUTCH GURU: It's nice to know that the Guru page has one fan, but is it true that the British have no real sense of humour? And why should people who don't like the page eat it?

PROBLEM CHILDREN: THE RESPONSE

There has been considerable response to the letter from Dr AJ Bell in the last issue on the subject of the effect computers and games have on young people and children, so we devote the next two pages to them.

As a teacher of many years' experience in primary, secondary and adult education and a parent of now grown-up children, I wholeheartedly support Dr A J Bell's professional opinion regarding the adverse effect upon our youngsters of games of horror and violence (August Issue). It is a well known fact that in the escapist's environment the fantasy world becomes the norm and therefore the reality. What is so terrifying is that in this area we are often dealing with the hidden forces of the occult. I cannot think of anyone in the caring professions who would support your view that computer games have no effect on our children and that children "have an excellent grasp of the difference between games and reality".

In recent months, the public conscience has been greatly troubled by the emerging evidence of the links between child abuse and the occult. As the evidence piles up and points towards TV, and more so towards videos and computer games as the generating sources of evil and violence, there could well be a backlash of public opinion. It happened with drugs and it could happen with video and computer games. Therefore those responsible should for their own protection follow Dr Bell's advice and set about drawing up guidelines as to the style and content of the games. That at least would be a start.

It is deprived children who are most at risk. For them, leisure can only be synonymous with escapism when it ought to be recreation. Perhaps a little thought should be given as to how escapism can also be therapeutic and still profitable for those at the commercial end of the business.

At least it is beginning to happen in the hand and machine knitting handicrafts, and also, I believe, in weaving and embroidery. In the USA, a firm called Cochenille Computer Knit Products has produced a program for hand knitters and interfaces for domestic machine knitters using Brother and Studio (Knitmaster) electronic knitting machines. The preferred computer is the Amiga. As a British author, teacher and designer of machine knitting, I have been approached by this company to test the Bit knitter interface for the UK market. The program incidentally works in tandem with *Deluxe Paint II*.

It has become obvious in the last few years that a growing number of women are interested in using home computers for knit design and pattern making. At first I felt it was not my scene but since my husband and I were about to update our word processor, it was not too difficult to choose the Amiga. I am now finding the new design approach quite fascinating. I bought a copy of *Amiga Format* as a one off. The games pages are lurid and horrific. It is as well to warn you that as more mothers and grandmothers turn to the Amiga to help with their knitting patterns this won't be the last you receive pleading for protection for our children and grandchildren.

Kathleen Kinder
Giggleswick, N Yorks

I have been moved to write to you with regards the letter from Dr Bell who I can only describe as a

Guru's Meditations

Yes, this page is becoming more popular all the time!

THE GREAT GURU COMPETITION

Entries for the competition to change the Guru page have been flooding in in their twos and threes – clearly the subject has been close to the heart of many a reader of *Amiga Format*. So far no clear winner has emerged, but a big surprise so far has been the number of people who support the old-fashioned Guru. Could it be innate conservatism? Could it be that people appreciate the wit and wisdom of this last page? Probably not – although the views of one particular reader in Holland should be read on the Letters pages for a nice, positive view of Guru.

Meanwhile, back at the entries. Quite a few readers have suggested that this page should be used to display a piece or two of readers' artwork, perhaps with a prize as well. Obviously, only pictures of great excellence would qualify and this would also probably mean turning tis into a full-colour page, which might be awkward from the production point of view. Still, if it is technically possible we would certainly consider it. What do you think?

Other suggestions include a technical jargon-busting page, deicated to putting things more simply: a Basic program listing for you to type in: a blank page that readers can rip out, solving the problem of having a last page: and using it as a kind of writing competition page, so readers can write thought-provoking or humorous pieces for the benefit of all.

So far, the most likely idea to win the competition is to print a questionnaire answered by a famous person, rather like they do in the magazine of the Sunday *Correspondent* newspaper.







New Faces!

The ugly mugs on the left are the latest new faces on the *Amiga Format* staff. They are, from top and in no particular order, Paul Morgan, new Art Assistant, Pat McDonald, a fresh Technical Editor and Trenton Webb, who takes on the glorious mantle of Reviews Ed. Welcome aboard, guys!

NEXT MONTH

Next month brings Issue 15, yet another milestone in computer mag history. A massive issue should contain such stuff as dreams are made of – the CDTV, multimedia, ray-tracing, 68020 and 68030 cards, fractal landscapes, sound samplers and much more besides, plus all the usual in the biggest and best!

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DIGI·VIEW GOLD

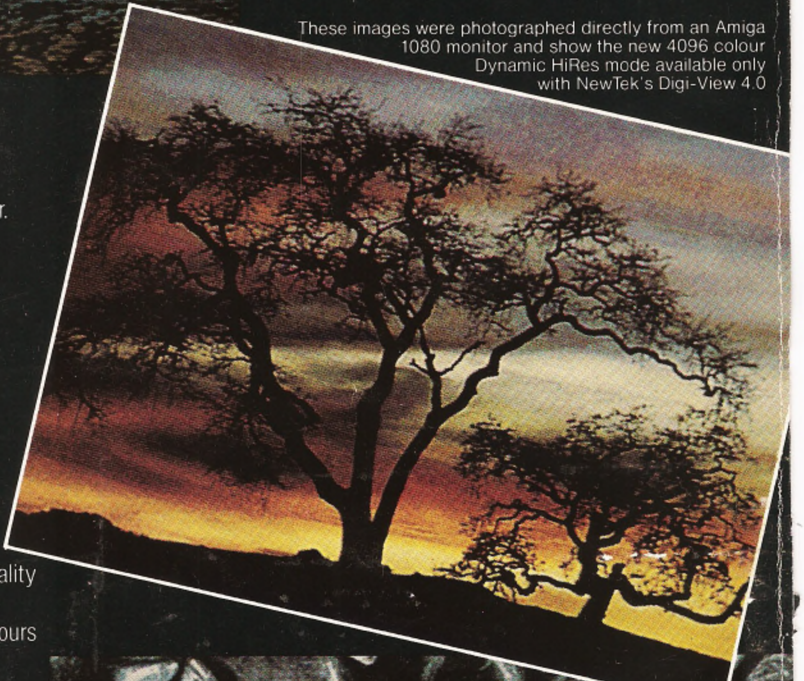
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